THE Country GUIDE

MARCH, 1951

Paul Hesse photo

Wheel trim rings, and white sidewall tires if available, at extra cost.

Again a new Studebaker is the talk of Canada!

Studebaker's great new V-8 Commander

Priced lower than you expect...a real gas saver!

Brilliant in pep and power...need no premium fuel!

Built in Canada by Canadian craftsmen!

STUDEBAKER AUTOMATIC DRIVE...EXTRA COST...EXTRA WONDERFUL...AVAILABLE IN ALL MODELS

The Studebaker Corporation of Canada, Ltd., Hamilton, Ontario

[Photo by D. Clemson

THE Country GUIDE

From Cover to Cover

MARCH, 1951

J. E. Brownlee, K.C., *President* — R. C. Brown, *Managing Director*

Editors: P. M. Abel and H. S. Fry — *Home Editor*: Amy J. Roe
Associate Editors: Ralph Hedlin and Lillian Vigrass

Advertising Manager: K. D. Ewart — *Extension Director*: G. B. Wallace

Subscription Prices in Canada—50 cents one year; $1.00 two years; $2.00 five years; $3.00 eight years. Outside Canada $1.00 per year. Greater Winnipeg $1.00 per year. Single copies 5 cents. Authorized by the Postmaster-General, Ottawa, Canada, for transmission as second-class mail matter.

Published monthly by The Country Guide Limited, 290 Vaughan St., Winnipeg, Manitoba.
Printed by The Public Press Limited.

Only MASSEY-HARRIS offers you ALL SEVEN features for One-Way Disc satisfaction

Any make of One-Way Disc will give you *some* of these features, but only Massey-Harris gives you *all seven.* That is something you will find worth remembering, when you come to buy a new One-Way. Because it *takes all seven* to give you complete and thorough One-Way disc satisfaction. Here they are . . . look them over:

1. Roto-Lift . . . an improved power lift that is designed to raise and lower the *discs only.* The frame doesn't change position. Easy on cutting edges. Easy on the whole machine.
2. Depth control from the tractor seat. Speeds the work and gives you a better seed bed or weed kill.
3. Disc-level locks for uniform penetration. Right hand, left hand and centre discs all cut the same depth.
4. Stone jumper . . . on all Massey-Harris models except the 4-foot. A very important feature on many farms.
5. Twenty-four-inch discs with 9-inch spacing and the correct dish for clean cutting at all depths.
6. Design that lets you make right turns, left turns, or back up. Saves time. Helps you make a better job where field conditions are difficult.
7. Design that makes it easy to change the cutting angle to suit the condition of the soil.

This combination of features has made Massey-Harris the most popular One-Way in the West. Mail the coupon and get complete information. Study the specifications. See how it's built. Check the various sizes. It will pay you.

MASSEY-HARRIS

A CANADIAN COMPANY WITH A WORLD-WIDE ORGANIZATION

CLIP AND MAIL THIS COUPON

MASSEY-HARRIS COMPANY, LIMITED, TORONTO, ONT.

Without putting me under any obligation, please send complete information about the Massey-Harris machines I have marked with an "X" below:

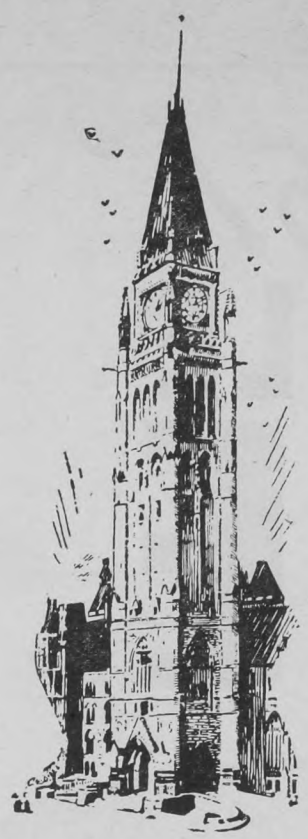
One-Way Disc	Cultivators
Wide-Level Disc Harrow	Drills
"Goble" Offset Disc	Weed Sprayers

NAME.....

ADDRESS.....

CG-351

Under the Peace Tower



THE Old Grey Prairie Ain't What She Used To Be. That seems to be the only conclusion you can draw from current census figures, supplied through the Bureau of Statistics. These are in the hands of the Chief Electoral Officer, and they give you a pretty good idea as to what is going to happen next election. In a word, the prairie is losing ground; it is going back. Once, the cry of Horace Greeley was heard in the land, and two generations at least marched to the chorus of: Go West, Young Man. Today, we are Wrong Way Corrigans, and instead of our people going West, they are landing in the East.

Probably the acid test of a province's progress is to be found in its representation in parliament. This is based on the census. Back in 1931, even after drought and depression had cleaned out not a few people. Saskatchewan managed to have 922,000 people within its provincial borders when the census was taken. This then gave the province 21 members in the next parliament. For one reason or another, Saskatchewan managed to keep that representation of 21 M.P.'s, even though its population dropped down till at times it was around 800,000.

Now comes the bad news. Saskatchewan is only going to have 16 M.P.'s the next time, in the next parliament. Other provinces are also reverting to smaller parliamentary representation. In the meantime, Saskatchewan, which with its 21 M.P.'s once was the largest province in population, after Ontario and Quebec, now slips down the scale. British Columbia thus becomes the third province in population, in parliamentary representation, and presumably, in prestige.

But let us look at the table, and see what is happening to the old grey prairie, to discover why she ain't what she used to be. The figures tell the bad news:

	Next Par't.	This Par't.	Last Par't.
Alta.	17	17	17
Sask.	16	20	21
Manitoba	15	16	17
	48	53	55

It can be seen here, that after the next census, and redistribution following that, the three prairie provinces will have only 48 seats. That is a drop of five from the present parliament, when there are 53. But from 1940 to 1949, and for the years before that, there were 55 M.P.'s from the prairies.

REDISTRIBUTION took place in 1933, and therefore it affected parliaments that came after the 1933 redistribution. Thus the 1935 parliament was based on the new figures. In 1940, there was a new parliament. Since there had been no census since 1931, the earlier redistribution figure was still effective.

There was a census in 1941, but since war had occasioned so many dislocations, the government decided to run the 1945 elections on the basis of the old redistribution.

So it was not till the 1949 election, that we got the "new" figures, and even they were eight years old!

It can be seen then that the prairie has not been holding its own with some parts of Canada. Let us look what that means in another way.

The two parliaments from 1940 to 1945 and from 1945 to 1949 saw 55 M.P.'s come to Ottawa from the three prairie provinces. They had thus, 55 members out of a House of 245. Therefore, the prairie had 22.4 per cent of the Commons representation. This was almost one-quarter of the House.

NOW, today, with Saskatchewan down one and Manitoba likewise down one, the House of Commons representation from the prairie is 53 M.P.'s. Unhappily for the West, a new system of representation from Quebec plus the addition of Newfoundland, has increased the House membership to 262. Thus the West in this, the 21st parliament, is only 20.2 per cent. It has thus dwindled from almost one-quarter of the House to just about one-fifth.

But the next Commons will see Saskatchewan take a big loss. For while much of the rest of Canada is growing, Saskatchewan is not growing proportionately. It will only have 16 M.P.'s, and will be only fifth among the ten provinces in population.

Manitoba will lose one more, and Alberta, for all her oil finds, will just hold her own.

The total number of M.P.'s is destined to drop to 48. This will be 48 out of 262, or 18.3 per cent of the Commons.

Meanwhile, of course, British Columbia goes up from 16, back a few years ago, to 21, in the next parliament. Ontario will gain from 83 to 85 M.P.'s. Quebec will make a slight increase from 73 to 74 members.

What will be the effects of this drop in prairie representation? I would say, first off the bat, that the West will not be as important as it used to be. Less attention will be paid to it. Its political influence will wane. It will be depicted as a standstill economy. Politicians will insist that the West is "going nowhere." Therefore, the less

(*Please turn to page* 63)

The Time for Decision

IF your experience is at all like mine, you must, of recent years, have come across people who had suddenly and fervently lined themselves up with some religious or political creed. I know one man who became a Catholic, another who became a Communist, and several who experienced genuine old-time "conversions." In politics the upsurge, some years ago, of Social Credit in Alberta, represented the same thing—conversion to a new doctrine. There are many points of similarity between religious creeds and new political faiths: they both come into existence to create, for those embracing them, "a new heaven and a new earth." They both rest on an intense experience of new convictions. I don't suppose there has been an age more abounding in them than our own.

The explanation lies right under our noses. Our world, our western world, has grown up on certain assumptions, points of view, doctrines, call them what you will. Circumstances have challenged these doctrines and where they have proved unworkable or too irksome, they have been cast aside. Into the holes in the dikes thus made, the flood of human need and the inventiveness of the human mind have rushed with other doctrines to take their place. In this way, the great conflict of values, which affects everyone, even the humblest, comes upon us.

What are we willing to die for? Have we a clear cut idea? The Communist knows, and he knows how to make young men live and die for his values. Therefore, says Prof. Arthur Lower, we haven't too much time to clear up our thinking

Humanity is so complex that there can never be agreement upon *values*: always and everywhere some men will say this is true and some will say that. In general men will be prepared to fight for what they believe in. However, most of the time, luckily, we get a certain rough measure of agreement and so the world jogs along, if not peacefully, at least not too disastrously. Of course, many of our values are relatively minor and don't provoke anything but a warfare of words; the anti-vaccinationists, for example, would hardly be prepared to resort to arms.

But today, the very fundamentals of our world are in the melting-pot. The tragic thing is that so few otherwise intelligent people really seem to know what those fundamentals are. I'm thinking of our western world as a whole, the world that has grown up over the centuries in western Europe and has been transferred to North America, Australia and a few other regions. I'm thinking more particularly of that portion of it which speaks the English language, upon which the brunt of the present world conflict is falling.

It would not seem too difficult to describe in a few words the fundamentals of that world. People are fond of calling it the democratic world, but "democratic" is a word which has so many meanings that it almost has no meaning. It is one which I avoid when I can, especially since it has been stolen by those who have entirely different conceptions of democracy from ourselves. No, I would not use the word democratic to describe our world: I would prefer to call it "liberal," if you will allow me to define that term in my own way.

OUR western world is a world rooted in Christianity: that is point number one. There is no aspect of western civilization that, over the long centuries, has not either come directly out of the Christian religion or been deeply affected by it. It is impossible for any of us to escape this influence and whether we repudiate it or not, makes no difference.

Our own English-speaking world is primarily Christian but hardly less—itself! It is rooted in its own great and fundamental institutions which shape its life at every turn. They are almost as much a part of us as the air we breathe. I mean, of course, institutions like our system of law and justice and those of parliamentary or representative government: it is these traditional institutions of ours that we really have in mind when we use the term "democracy," or as I prefer to call it, "liberalism." Liberalism, like Christianity, cherishes man as an individual, rather than man in the mass: it is rooted in freedom and justice.

On this continent we began as Puritans, but we have lost the earnestness in which that faith was framed. Now we are confronted with an adversary who himself possesses the durability of the Puritan whose convictions were equal to any test.

It is nothing less than this whole underlying philosophy of ours which is in danger today. It is in danger from within and from without.

The chief danger that threatens from within, it seems to me, is a kind of pernicious anaemia, a slow enfeeblement. Why? Well, the genius of liberalism is leaving everybody to decide for himself. "I don't want to be ordered about and I don't want to order others about" might be the slogan of the good liberal. But that assumes that people don't need ordering about, that they can stand on their own feet. Yet it is plain that large numbers come to see in freedom just an opportunity for selfishness. Liberalism is in heaviest danger from the irresponsible within its own ranks. Everybody has met plenty of people ready to take advantage of the opportunities that a free society offers them, but with precious little sense of responsibility toward it—people who have no sense of public duty, people who try to grab things or privileges for themselves whatever the cost to others, and, on a still lower level, the mere irresponsible "wasters."

Outside our boundaries, there is an organized world against us that has repudiated Christianity and freedom, a world that makes liberalism its chief enemy, that thinks only of man in the mass, that will have nothing to do with our notions of liberty (which it calls mere self-indulgence) and would sweep away all our cherished institutions the moment it got the chance—the world of Communism.

The contest is not another version of vaccination vs. anti-vaccination. It reaches to the very bottom of life and if Communism wins, we shall indeed get a new heaven and a new earth—or shall we say, a new hell and a new earth?

The danger is that unless the liberal world can find its feet again, Communism will win. Someone has said "you cannot shoot ideas with bullets." You can only turn them back on the shield of other ideas. We in the West are still strong militarily, but our strength will go to pieces unless it is based on convictions.

So, it would seem to me, if the western world is to survive, it must pull up its socks and clear up its ideas.

It is not "aggression" that is at the root of our difficulties with Russia. Rather, it is the last ultimate question that mankind always asks about itself: "Is a man a child of God—and therefore precious—or a chance product of purposeless nature?" "Are all men brothers, or does class naturally war upon class?" These are the questions that clamor for answers today and that's why men pound so frantically on so many doors. What's it all add up to? they ask.

The Communists have their dogmatic answers, but we in the West, in our freedom to make up our minds, whether on (*Please turn to page* 91)

IMMIGRATION

How much? What kind?

by **FLETCHER FRANCIS**

IN 1951, Canada is prepared to take no less than 100,000 immigrants. If all goes well, and Mao Tse-tung doesn't upset things, we might easily admit as many as 200,000. That, at least, seems to be our immigration policy for 1951, if you can call that a policy.

The government has been doing a lot of hard thinking the last few years. And hard work. Most certain sign that the federal authorities are really serious about immigration is that they have, for the first time in many years, appointed a Minister of Immigration. While Hon. Walter Harris is called Minister of Citizenship and Immigration, nobody takes the first half of his job too seriously. Put it this way. He probably could do it by spending half an hour each day at citizenship. The rest of his nine-to-five stretch would be devoted to immigration.

The first thing the government had to do was to have it out with Quebec. The French speaking province has always fought a rearguard action against immigration. Indeed, right now, the St. Jean Baptiste Society is on record as opposing it. But somehow, with some quid pro quos and more than a little horse trading, Quebec has officially called off her veto, and now is readjusting herself to the inevitable.

THE second most important thing that has happened here in government thinking is that it has changed its whole approach to the subject. Time was when immigration was another word for farm help. It thought of immigrants purely as men who would go on the land. Prof. George H. T. Kimble of McGill University refers to what he calls Canada's "stagnated frontier" still being more or less stagnant. There is practically no new land where men may go. Indeed, as we shall see, there is less room for farmers now than there was a few years back. Kimble refers to the fact that we have lost 180,000 people on the prairies in the years between 1930 and 1946, and there is no assumption that this decrease will stop. It would seem that every time we put one more gallon of gasoline into the prairie, the population shrinks. The higher the mechanization, the lower the population.

The third thing the government has learned has been that there must be a far bigger, a far more intelligent approach to immigration than there ever has been in the past. The old way of getting people in was to find them, hustle them into colonist cars at the seaport, hurry them to the prairie, and then forget them.

Today, required reading for all immigration officials is the McMaster University symposium. By invitation, 50 people who should know were invited to submit papers on "Population Growth and Immigration into Canada." There were some brilliant papers submitted, some searching analysis done, some shrewd observations made. This McMaster symposium is getting to be the immigration department's Bible. The minister himself never gets too far away from his copy of the McMaster report. Let us glance at some of its highlights.

The aforementioned Prof. Kimble led off, in the symposium, and divided the country into inhabited land, and uninhabited land. The former he described as lying mainly within 100 miles of the U.S. border. The latter, which he called the "anoikoumene," or uninhabited part of the Dominion, is all the rest of it.

Kimble observes that the frontier has not only stagnated, but indeed, once cleared land has reverted to bush. He sees however, that we might intensify our development of the land. He envisions areas closer to town reverting from wheat farming to dairying. He states that irrigation can put dozens of people where only one family can survive today. And he notes that in the so-called park belt, mixed farming might support more people than wheat farming does now.

Then he looks around, and sees six areas where we might get more people. He mentions, in order of diminishing importance, the semi-arid prairie (where presumably irrigation will help), the Peace River area (where more markets could mean more people), and the clay belt. Here amid the clay, he sees apparently, a gradually filling area. This much is true. The Province of Quebec has done a grand job in filling up its empty spaces in the clay belt. But it has done it with land hungry, hard-working French Canadians, whose love of church, big families, and country life has made colonization fun. But that is from within; Quebec pulls itself up with its own bootstraps. Ontario could hardly recruit thousands of farmers from the streets of Toronto, the lush farms of Niagara, or even the harsh acres of Haliburton. For some reason, English Canadians care not at all for northern latitudes in Ontario. Kimble also sees new development in the plateaus and valleys of central British Columbia.

Betty B. Robinson, herself from McMaster, talks of the "primary extractive industries." She believes we can use more people in mining and forestry. Right now, that seems true enough.

BUT the trouble there is that these industries are also self-reducing. Those who have seen ghost towns like Cobalt, Ontario, know how mining country can play itself out. Those who have viewed the scrubby lands where once stood tall trees in B.C. or in Ontario, recognize that when lumbering goes, everything goes, in many an area. The chief virtue however, is to find work for these imported people for a decade, maybe a quarter century, with the hope that when the forests play out and the mines are worked out, that the immigrants and their children will have firmly integrated themselves into the Canadian economy elsewhere.

The establishment of a new Ministry of Immigration at Ottawa coincides with some changes of viewpoint. McMaster University provides a good lead-off

Senator Leon Mercier Gouin, himself a big force in eastern Canada, and son of the late Sir Lomer Gouin, Premier of Quebec, says that French Canada is changing its mind. He tells of the Chambre de Commerce in Montreal submitting a brief, urging selective immigration.

While he does not say so, this is taken usually to mean Poles, and Belgians, above all others. The first argument for the Poles is that they are Catholics. For the Belgians, they answer two counts, first because they are Catholics, and secondly, because they speak French. Only thing wrong with that is that Poles and Belgians alike when they reach Canada, soon learn English, and in all probability throw in their lot with English speaking Canadians.

James Duncan, Toronto industrialist, attributes wars to those baleful twins, restrictions on trade and restrictions on migration. If you choke off a country's trade you can indeed starve it slowly. Also, if you keep people bottled up, you bring them finally to a national boil. For instance, one reason Japan developed her war machine was that basically, she was overcrowded, and desperately needed more land. Canada can take the pressure off these swelling European populations, it is indicated, if we take surplus and unwanted populations off their hands.

Evelyn W. Brownell, Director, Immigration Branch, Province of Ontario, plows new ground when she turns up the new kind of immigrant. He is one who can finance his own way. It may well be that he is buying freedom rather than a job, that he wants to possess his soul rather than give it to a dictator.

The new immigrant has a trade, as often as not. As a matter of fact, the immigration authorities are meeting such men at the docks, hat in hand. Those men have jobs waiting for them. In fact, one of the things the minister of immigration has emphasized, in private chats, is that the government in an informal way, but very eagerly nevertheless, is seeking out skilled artisans, welcoming them warmly.

This new type of immigrant comes not in steerage, nor rides the colonist cars. He arrives, as often as not, de luxe, by air. Mrs. Brownell, anent college degrees, said there were as many students at the University of Riga, Latvia, in 1939 as there were at the University of Toronto. We're getting quite a few Latvians and their neighbors, the Lithuanians.

FOR years, in the past, the tendency has been to figure an immigrant as a sort of liability, as a citizen. The new style immigrant is an asset from the beginning. He buys a plane ticket, he spends good money on Canadian planes and trains, he even brings a little capital when he is allowed to.

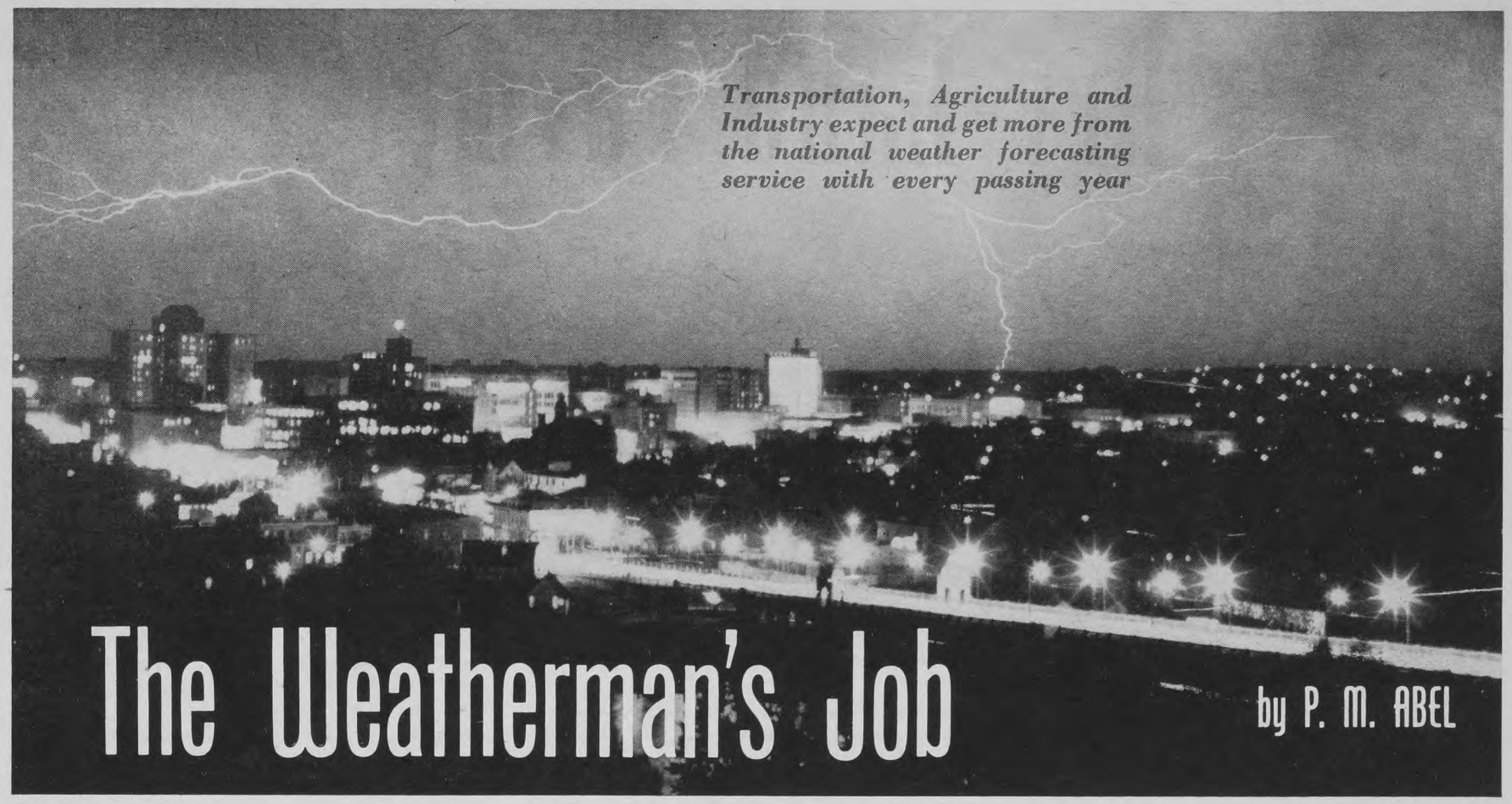
H. C. P. Cresswell, C.P.R.'s Commissioner of the Department of Immigration, stresses "the availability of steamship accommodation." Offhand, one would be inclined to dismiss this as being a thing of the past. But for 1951, the Canadian government as early as October reckoned that the 1951 immigration intake was largely regulated by availability of steamship accommodation. While the air is skimming the cream, the body of immigration still comes by ship.

This, up till now, might be said to be the academic approach to the new immigration problem. The McMaster symposium pioneers new horizons. It is a new kind of thinking on immigration. This is a far cry from find 'em, get 'em, and forget 'em.

But it seems to me that what might be called a geographic survey could be used to advantage. I nominate myself for this, since I have just completed a trip across Canada and back of 8,243 miles. I returned enthused about filling up the empty spots, and then had a chat with Hon. Walter Harris. What follows is some government policy, a lot of my own observations, and what might be described as "overtones" heard here and there in Ottawa.

No one knows exactly what can be expected of Newfoundland. The province will grow. Undoubtedly, such a thing as an end-to-end Newfoundland highway would in itself give hundreds, if not thousands, more people a livelihood. Add up the service stations alone, for a 600-mile road, and you can see what that could mean.

If there is much land suitable for colonists in New Brunswick, no one can tell me where it is. New Brunswick's growth must be reflected in Canada's. Ditto with Nova Scotia. The frontiers of the Maritimes went more than 100 years ago. So did much of the forests. But just as Brandon grows, when the countryside waxes prosperous, so will the Maritimes increase (*Please turn to page* 71)



Transportation, Agriculture and Industry expect and get more from the national weather forecasting service with every passing year

The Weatherman's Job

by P. M. ABEL

A display of lightning over the city of Calgary. [Photo by Lorne Burkell.

ON November 7, 1913, a violent storm arose on the Great Lakes resulting in the loss of 13 vessels, eight of them with their entire crews. The total financial loss was $3,500,000. It was recognized as one of our biggest national disasters up to that time and funds were publicly raised to aid the widows and orphans.

As every school boy knows, the weather in the northern hemisphere moves normally from west to east in a disorderly pattern. Occasionally huge masses of air depart from this general tendency. Just before the 1913 disaster a gigantic mass of cold, and therefore heavy air, moved outward from northern Russia contrary to the usual direction and settled down over the North Atlantic Ocean. It acted as a barrier to the escape of the warmer air moving out from the American continent, which was thus funnelled northward in a narrow channel, producing the disastrous storm.

In the last week of November, 1950, Canadian weathermen became aware that the conditions which produced the 1913 storm were building up in exactly the same fashion. The storm broke on November 25. The entire Atlantic seaboard was whipped to violence. Winds rose in some places to 85 miles an hour. Between Cleveland and Pittsburgh over 30 inches of wet snow was recorded. Winnipeg football fans remember that day for their beloved Blue Bombers played for the Grey Cup in a hurricane-swept bog at Toronto.

But the 1950 storm caused not one single shipping fatality! Why so much loss in 1913 and so little in 1950? The answer is the improvement wrought in the meteorological service in the years between. Before the emergency crew of 500 men began their all-night shovelling to clear Varsity Stadium for the football farce of 1950, the weathermen were broadcasting to lake shippers to scurry for shelter. The only mishap was to one ship which regained port with its cargo shifted.

What are the factors that have brought about this improved forecasting service?

TO begin with there has been a vast multiplication in the flow of information coming in to forecasting centers. There are now 236 Canadian stations reporting local weather conditions four times a day; 113 of them reporting every hour. Besides the improved means of public communications, the Canadian weather network is served by 21,000 miles of teletype wires conveying a constant stream of up-to-the-minute information. Add to this the value of radio in cutting down the time between the making of a forecast and the time John Q. Public becomes aware of it.

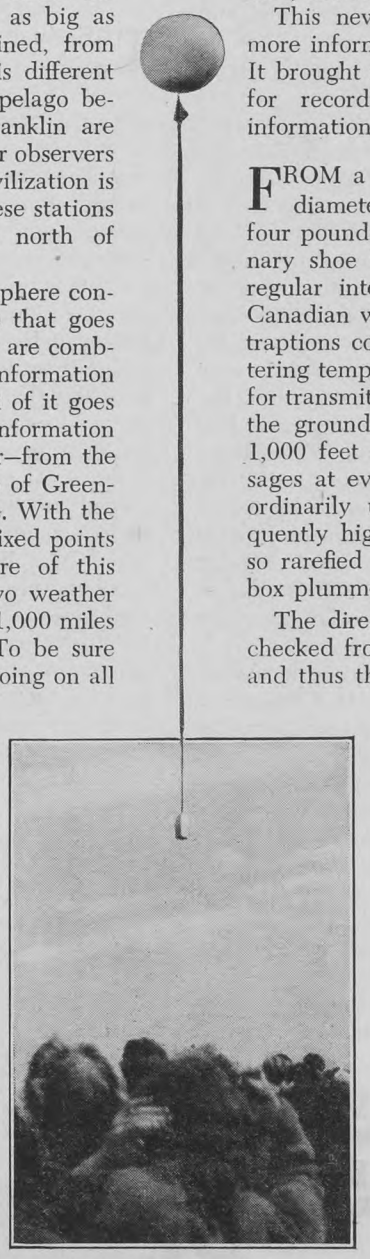
The intervening years taught the weatherman the importance of the Arctic as a source of weather. In earlier years it was almost completely neglected. Forecasters used to talk with regret about the "Arctic Blind Spot," an area twice as big as Manitoba and Saskatchewan combined, from which they got no information. It is different now. Islands in the Canadian archipelago beyond the reach of the intrepid Franklin are now the year-round homes of weather observers whose only physical contact with civilization is by yearly ice breaker. The last of these stations to be established is 1,800 miles north of Medicine Hat.

International co-operation in this sphere contrasts sharply with the performance that goes on at Lake Success. Uncle Joe's boys are combing their frozen tundra for weather information just as determinedly as our own. All of it goes into the common pool along with information from Canada's other northern corner—from the Danish station near the northern tip of Greenland, 600 miles from the North Pole. With the Americans we are keeping ships at fixed points in the Pacific. The Canadian share of this enterprise is to keep one of our two weather ships continuously at Station Peter, 1,000 miles out in the briny from Vancouver. To be sure this sort of co-ordinated activity is going on all over the world for the mutual benefit of every nation.

On the technical side forecasting has improved also. It is not an exact science yet, but there has been a constant improvement in its scientific basis. In this the Norwegians have been valuable contributors. About the time of the First Great War Vilhjelm Bjerknes, and later his son Jakob, compressed their researches into what has since come to be known as the cold-warm frontal theory which has influenced meteorologists tremendously.

Increasingly weather scientists have turned their attention to what goes on in the upper atmosphere. Before 1930 they took their instrument readings at ground level and thought in terms of two-dimensional weather. After that, weather science took on a three-dimensional aspect. The forecaster began to regard the air above as a series of layers, each with its own peculiar temperature, pressure, moisture content and direction of travel.

This new thinking brought a demand for more information about the upper atmosphere. It brought into being the radiosonde, a device for recording and transmitting upper air information.



A radiosonde balloon released at a Toronto display.

FROM a hydrogen filled balloon, six feet in diameter, is hung a cardboard box about four pounds in weight and the size of an ordinary shoe box. The balloons are released at regular intervals from a number of selected Canadian weather stations. The air borne contraptions contain scientific apparatus for registering temperature, pressure and humidity, and for transmitting the information immediately to the ground. The balloons rise at the rate of 1,000 feet a minute and send out their messages at every 250 feet of climb. They reach ordinarily up to 45,000 feet high, and frequently higher, till they reach an atmosphere so rarefied that the balloon explodes and the box plummets to earth.

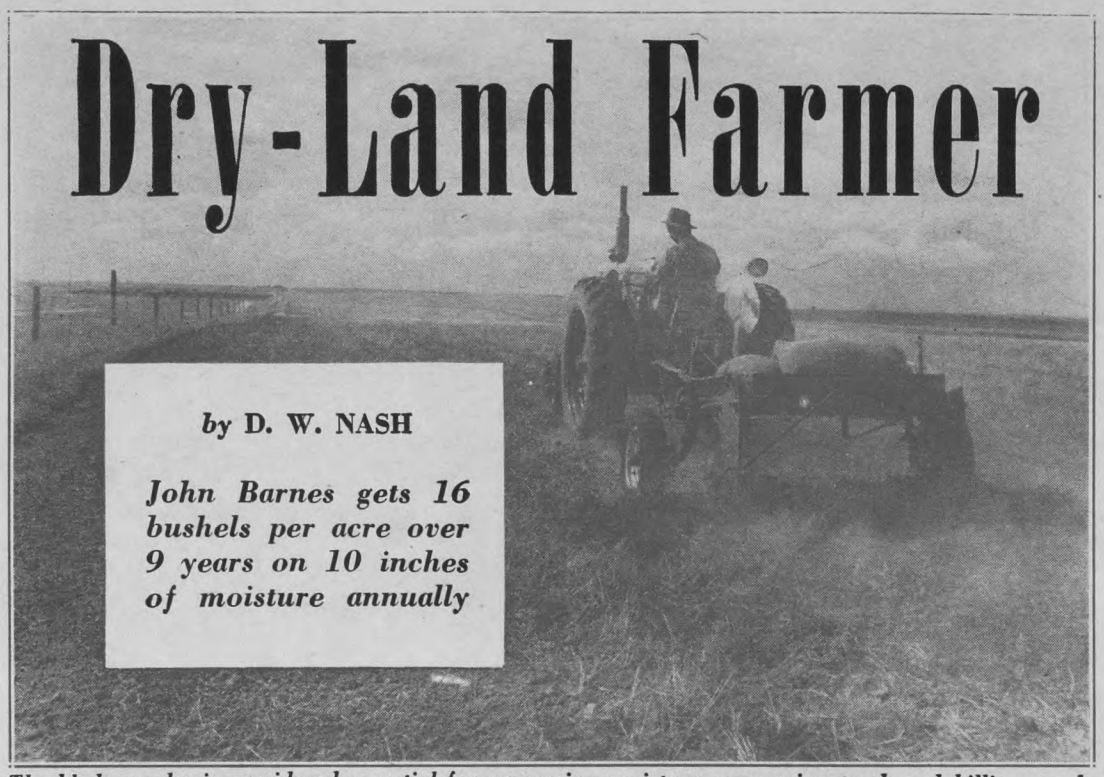
The direction and speed of lateral travel is checked from the ground by the use of radar, and thus the observer gains information as to the strength and direction of the wind at different altitudes.

By use of this instrument the weather station may chart a vertical section of the weather overhead. By tying together the telegraphed description of a number of these vertical cross sections, the central forecasting station can make a veritable weather layer cake. The forecaster then compares his new layer cake with the one he built a few hours previously. By noting the way in which the various layers slip and slide out of place he can predict with greater accuracy what surface conditions will be when the whole cake has slipped away a few hundred miles.

One Canadian weatherman,

(*Please turn to page* 42)

Dry-Land Farmer



by **D. W. NASH**

John Barnes gets 16 bushels per acre over 9 years on 10 inches of moisture annually

The blade weeder is considered essential for conserving moisture, preserving trash and killing weeds.

THERE are sharp and telling differences between farming in areas where the annual precipitation is reasonably ample for a variety of forage crops, and in those areas where the total rain and snowfall is not more than, say, ten inches.

Where rainfall is ample a wide diversity of crops is possible. Ability to grow forage crops inevitably means attention to livestock: beef or dairy cattle, and perhaps, hogs, sheep and poultry. On well-managed farms in such areas, longer rotations are practicable. Legumes can be introduced and coarse grains produced in much greater quantities. The amount of straw per acre is greater, while weeds and soil fertility are apt to be problems of primary importance. Associated with farming in such areas is a wider variety of problems, such as fencing, haying and harvesting difficulties, livestock care and management, perhaps a greater variety of machinery and equipment, labor problems, and difficulties of other kinds connected with a more complex farm economy.

In the dry areas, farming is, on the surface, simpler. Crops are pretty well limited to cereals, mostly wheat. Livestock is likely to be confined to beef cattle, or sheep grazing on native pasture. Acreages tend to be larger and call for perhaps a heavier tractor and, generally speaking, larger, speedier tillage and harvesting implements. The rotation is apt to be a simple one, of fallow and wheat.

While the problems of the two types of farms are fundamentally the same, namely, to develop the maximum yield possibilities of the soil without unnecessarily depleting its fertility, in practice the persistent problem of the dry-land farmer is invariably to conserve, to the maximum, the limited moisture available per acre, per year. The dry-land farmer who knows his soil and studies his implements knows to a nicety how frequently during the season he can afford to stir his soil, and with what implement this is best done on each occasion. He probably knows from bitter experience that he cannot afford too liberal use of the one-way disk. Because his yields tend to be lower, he may know that he cannot afford the cost of covering his summerfallow more than three or four times during the season, as the case may be. He has learned just how far he can go economically in the control of what is probably his most troublesome weed, Russian thistle, and whether, in a crop of thin straw, he should poison or spray for grasshoppers, for economy's sake.

It seems to me that any dry-land farmer who, over a period of years, can average 16.1 bushels of wheat on fallow, when the annual precipitation has averaged no more than 10.05 inches (growing season, 5.5 inches) deserves some kind of tribute. Such a man is John Barnes, who farms three quarter-sections of land four and one-half miles east of Bindloss, Alberta, the station west of Empress on the Saskatchewan border, in the area between the Red Deer and the South Saskatchewan rivers. The Barnes' farm is operated as a district experiment station (experimental substation) of the Experimental Farms Service, and has been so operated since 1935. Before that, for 11 years it was an Illustration Station. It is now one of ten such experimental substations operated under the supervision of the Experimental Station at Lethbridge. Its average annual precipitation is the lowest of all, and yet for the 22 years between 1924 and 1946 Mr. Barnes' wheat yield averaged 14.2 bushels per acre after fallow, despite the period during the thirties when his crop was, in at least one year, non-existent, and when his garden and farmyard were covered to a depth of two feet with drifting soil.

THE soil of the farm is classified as silt-loam; and of the 480 acres, 442 are cultivated and 25 consist of native and improved pasture. Of the cultivated acreage, one-half the area each, as nearly as may be, is devoted to wheat and fallow. The crop land on an experimental substation will also include some small area devoted to plots of cereal varieties and other demonstrations.

Strip farming is practiced, and the strips are 16 rods in width. Strips, says Mr. Barnes, are a nuisance, and the wider the strips the less the nuisance. He thought it might perhaps be safe to widen them to 20 rods, but was not quite prepared to make that adjustment in the delicate balance between yield, on the one hand, and the danger of soil drifting and loss of moisture on the other.

Since all experimental substations are privately owned and the operators must secure practically all their income from their own farming operations, I asked Mr. Barnes if he thought three quarter-sections were sufficient in his area, in this mechanized period. He thought it was nearly enough, but felt that perhaps for a real balancing of labor and machinery, five quarters would be optimum. He had, in fact, been endeavoring to rent additional land previous to the time of my visit. As it was, he had a higher percentage of total farm capital invested in machinery and equipment than any of the other nine substations in the area. The average cultivated acreage for all ten substations was 841, in 1946.

Mr. Barnes was born in Scotland and was raised at Granum, Alberta, which is about half way between Claresholm and Macleod. He homesteaded on his present location about 1912 and gradually broke more land until 1916, when he achieved a crop of around 3,000 bushels. The big crop of 1928 brought him 5,100 bushels, his maximum up to that time. In 1940, however, he was able to harvest 7,000 bushels, and in 1942 reached his all-time high of 7,500 bushels.

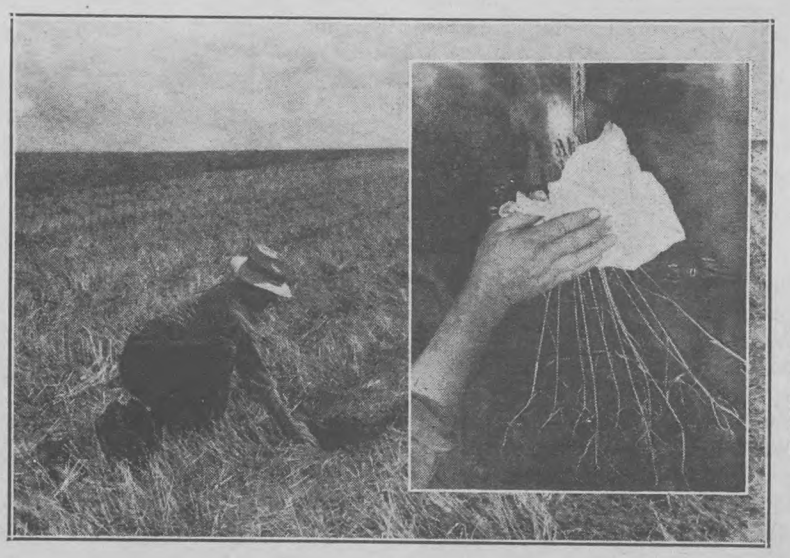
Mr. Barnes laughed as he looked over an account book that he had kept in the old days. It was a cash account, kept on a monthly basis. Those were the days when a dollar bill was a lot of money to a young homesteader. I remember one place in his old cash book where cash resources of $54 were shown. This was comparative affluence, because after a few months—I hope it was just before harvest—the monthly balance showed exactly two cents.

One of the reasons why Mr. Barnes had not been overly anxious to get more land is that he feels his average yield might suffer. As it is, he knows his yearly production averages higher than on some farms where acreages are substantially greater. He feels that where moisture is such a criterion of success, the good farmer simply cannot afford to skimp the land or give it careless cultivation.

In the dry areas, nature can play tricks on the best of farmers. This spring, for example, Mr. Barnes said that his soil held 40 inches of moisture—that is, it was moist 40 inches down from the surface—but no rain was received until the middle of June. The result was that the soil lacked sufficient moisture to enable the wheat plants to form secondary root systems. Consequently they could not stool, and gave very little promise of any increase from the 27 pounds per acre of 11-48-0 fertilizer which is customarily applied. He pulled up a few plants and showed me the skimpy and inadequate root systems which had developed.

THE wheat-stem saw fly is no longer a worry with Rescue wheat. Grasshopper control this year was also effective. Poisoned bait was used instead of spray, however, because, as Mr. Barnes said, thin crops waste spray, and there was not enough vegetative growth to justify spraying this year.

The crop was also sprayed for Russian thistle at the rate of four ounces of acid per acre, but herein lies a problem. The Russian thistles were stunted, but not killed, and in two months had grown again from the outer nodes, with the result that combining would be difficult. He tried using six ounces on one acre, and it hit the thistles badly. Now he is wondering whether it would have been wiser to use six ounces instead of four on the main crop. This might, in fact, have been the wiser thing to do since the Russian thistle is classed as an intermediate (*Please turn to page* 33)



Mr. Barnes shows the depth of the loose soil (4 inches) left by the blade weeder.

In a dry season like 1950, only primary roots are formed, and straw is short.

THE LAND GROWS LOVE

A strange young man came to work a farm on the edge of the settlement. People called him a fool and asked questions, but Lilleth waited

by KERRY WOOD

Illustrated by J. H. Petrie

EVEN before the ears of Blind Peter heard the young man's step, something made Lilleth lift her head and look eagerly down the trail. Thus she saw him coming, his shoulders bent under the weight of a great pack. A shovel's blade flashed in the sun as he came, and in his hands an axe helve gleamed white with newness.

Blind Peter turned his sightless eyes suddenly toward the road.

"A stranger comes, Lilleth."

"I see him."

"I am interested," the old voice prompted. "Will you describe him to me?"

But the girl was oddly diffident, this time.

"He is too far off yet, Uncle. Wait a little." And she stared eagerly across the distance.

Peter did not wait. "He is not too far away for the eyes I see with, girl. This stranger who comes is young, and I feel his youth calling to yours. Your heart knows this, for I can hear its loud beat."

The girl dropped her eyes.

"This is as it should be," the old man murmured. "You have come to the bloom time now, and your heart wants to love. The spring is awakening around us." He stared again toward the distant newcomer, then closed his eyes. "A slow and strong young man he is, yet for all his strength he is very tired now. But there is a purpose in him that is not weary, and that purpose is leading him on now." Then he added. "Raise your head, girl—he is looking at you."

"He is looking at both of us."

"No, only at you." Old Peter's voice dropped to a whisper. "Someone else looks, too. Behind you. It is Roger."

The trail ended at their gate, because their farm was the farthest out from the settlement. But the young man did not stop at the end of the road. He pushed on through the timber, making his own path. Seeing this, Roger cut across the field and climbed over the snake-fence to accost the stranger, who paused for a breathing spell and a word before pressing on again. Roger followed him, his voice raised in question, and the two went from the girl's sight and the old man's hearing. Later, Roger returned and crossed the garden to Lilleth and her uncle. The hired man was full of news about the stranger.

"There's a crazy one," he started off, grinning.

"Did you ask him to stop and rest with us?" Blind Peter asked.

Roger shook his head.

"I didn't think to. But he wouldn't have, anyway—he's in too much of an all-fired hurry. He'd hardly bother to stop and talk."

"The invitation should have been extended, at least."

"Ah, but he was in a hurry, I say. And he's not sociable; I'd a hard job finding out his business. Besides, the man's a fool. Did you ever hear of a farmer with only an axe and spade for tools?"

"A farmer, is he?"

"He calls himself one," retorted Roger. "The man's a downright pauper. Everything he owns is in the bag on his back. Or so I gathered, for he's not the kind to help you out by speaking. But I asked him questions and I wormed it out; everything he owns is on his back, and it wasn't a big bundle, at that."

Lilleth spoke for the first time.

"Is he settling near?"

"Too near for any good," tossed off Roger. Then his eyes narrowed on her, for there was no mistaking her interest. "Well I heard something about him having bought that wild land, between us and the mountain. He intends to make it a farm, I gathered."

"Good," Old Peter was pleased with the news. "I sensed he had come to stay."

But Roger said: "Maybe he'll stay until the winter comes, but maybe he'll be starved out by then."

"He will stay," said Peter, with simple trust in his darkened senses.

Then Lilleth framed an eager question: "Did you learn his name?"

"No," said Roger, shortly. "I didn't bother to ask."

Blind Peter turned and walked unerringly toward the house door to tell his wife the news. Lilleth bent to work again, the rake in her brown hands. And Roger gave her a long, fond look in which his patience seemed straining on a leash. Roger also knew that it was springtime.

There in the creek valley the young man, whose name was Joel, put down his pack and made ready to stay.

From nowhere he came, with nothing. Only his two hands and the muscles of his big, slow body and a hope in his heart that could not find haven in the city streets. More than a farm he wanted; Joel dreamed of a word called home.

THE bundle came to rest beside a tree trunk and he rolled up his sleeves and started work. Soil was to grow him food, so first the soil must be made ready. A natural opening was there alongside a leisurely part of the creek, a clearing hemmed by poplars. This tree grows only from good earth, so Joel nodded his satisfaction at finding them near this meadow strip. He delved deeply with the spade, putting the weight of his hard body on the shoulder of the tool. Deeply he dug and slowly, taking time to shake the grass roots clear and leave free the loose black soil where the sod had been.

All day long the blade buried itself in the earth. All that day and many days following, until the grey-black square of naked earth was of a size that took time to walk around.

The poplars hung out green draperies one day, and Joel put his spade away when he noticed this. It was time to sow seed. In the pack were a few thin packets such as city folk use for their tiny plots, and even though he forced patience on his big fingers and planted the seeds one by one, only a little end of the plot was planted when he finished.

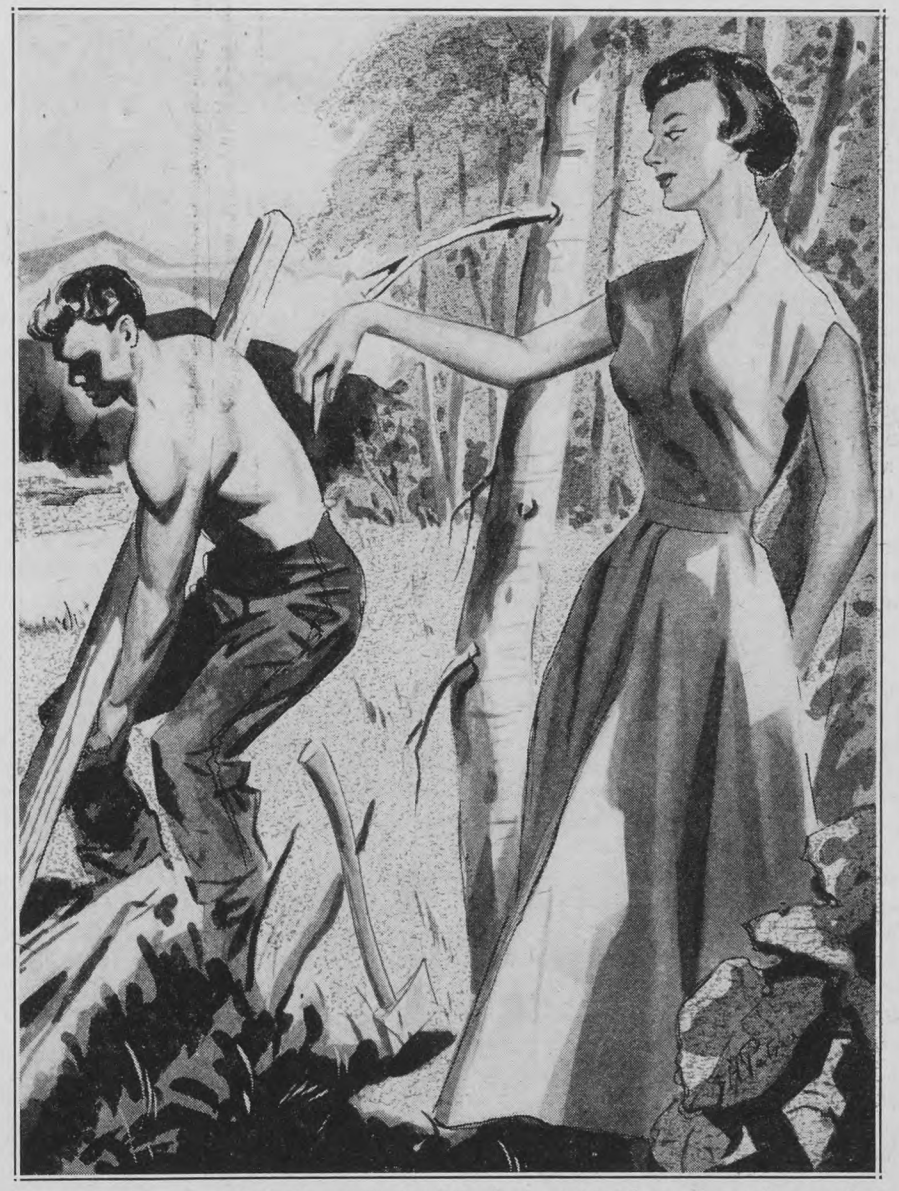
Into the woods Joel turned then, his eyes searching for a telltale leaf. He knew the soil, this young man, and the good things to be found in it. At the end of two long days of hunting, he had collected a small bundle of aromatic roots.

"Seed money," muttered the man, and he cached his belongings in a cave and walked the ten miles to town. The druggist gave him the money asked for the roots, and with these bills Joel bought bulging ounce packages of seeds and a heavy sackful of clean-skinned potatoes and was well pleased with himself. He found a spring and drank when he was clear of the town, then sat beside the trickle of water and gnawed on a raw potato and ate the two fish he had cooked to bring on the trip. Strong again, Joel rose and trudged the long miles one by one, with the spring singing around him.

LILLETH had seen him pass on his way to town. And Joel had seen the girl. A sight she had made, this tall girl with brown arms bare to her smooth shoulders. Standing there in the garden in a crisp dress, using a hoe. When she stooped to the task, her rich young body tightened against the colored dress in full outline. This in the springtime, too, when all living things are filled with the love that makes life.

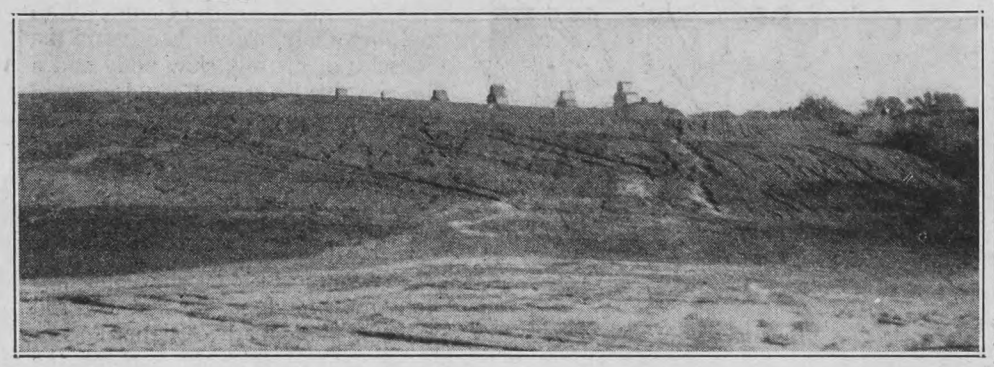
But the young man walked on, his slow heart beating faster but his slow purpose unchanged.

Lilleth looked after him, her lips parted and her breath short. Blind Peter smiled understandingly from the doorstep. (*Please turn to page* 65)



With glowing eyes Lilleth watched while Joel, stripped to the waist, worked through the afternoon, not pausing to rest.

Squandering Capital



The owner of this farm near Rhein gave up dairying for wheat growing.

A gully west of St. Benedict. Only the presence of large boulders breaking the speed of the water flow has prevented worse erosion.

by J. T. EWING

In a discussion with Ernie Dehm, the Saskatchewan department's soil specialist, the author is taken on a verbal tour of the province to observe individual victories and defeats in the battle against soil erosion by wind and by water

Soil blowing near Herbert—a common sight in the thirties.

A FARMER on sandy soil in the Imperial district of Saskatchewan thinks he has solved the problem of soil drifting. He lets weed growth reclaim land that has blown badly. When the weeds have stopped the soil drifting he disks it and seeds it to wheat in blocks of a quarter to a half section.

Commenting on this practice, Ernie Dehm, soil specialist for the provincial department of agriculture said, "This seems a poor substitute for strip cropping, lumpy surface, a good trash cover, field shelterbelts and grassing down infection spots. Much of the land under this type of farming would be idle a good share of the time."

Those practices comprise the key to the stopping of soil drifting in any area and with all soil types. They provide most of the answers to control of water erosion, too.

When we think of soil drifting in Saskatchewan, the open prairie country in the southwestern part of the province comes to mind. At present scarcely any area is free from some loss of soil through wind erosion.

"Quite a number of farmers in the southwest are now doing something about stopping the blowing away of their soil," according to Mr. Dehm. "As you go toward the northeast you see that farmers are alarmed but most of them are doing nothing."

Farmers should be taking drastic steps to keep their top soil at home before it is too late, especially in the areas where soil drifting is worst, Mr. Dehm warned. In the Yorkton-Canora district it has been bad for only a year or two. The same is true in the Chelan-Bjorkdale district. In the Krydor-Hafford area soil drifting damage has been going on for several years while in the Maidstone-North Battleford region it has been in progress for a long time.

Even in the northern fringe areas some top soil is leaving home. "One field north of Meadow Lake has been abandoned due to wind erosion," Mr. Dehm said.

Trash covers may be easier to maintain in southern areas than on northern soils where weeds are more of a problem because the summerfallow has to be worked more often. But results are obtained, Mr. Dehm said, by not using disk type implements and using the cultivator no more than is necessary to control weeds.

THERE are years and sometimes periods of years when winds are stronger than usual. As early as 1897 severe winds caused soil drifting in the Indian Head district. With less wind damage between these periods other years stand out as seasons of high winds. These include 1911, 1918 and 1919 and several years in the '30's.

Since 1918-19 we have not been without wind erosion in any year, Mr. Dehm said, although some years have been worse than others. So we can expect it any year and all cropping practices should be planned every year to protect against it.

Some districts haven't felt its ravages much as yet, but where light soils are found as in the Nipawin, White Fox and Carrot River areas much of the land has been overcleared. Large fields predominate. Since their natural protection has been removed many of them can be expected to begin to take to the air quite soon.

"I saw one farm near Chelan last summer while I was trying to see what could be done about some of the province's erosion problems, where a very sandy field had been summerfallowed by first plowing, then disking. As a result there was no trash cover and the soil was thoroughly pulverized and both wind and water erosion had taken place."

Mr. Dehm commented that water erosion was seldom found on such light land unless the soil structure had been broken down, and most of the organic matter removed by poor tillage and cropping practices. He pointed out that wind and water erosion act in much the same way in light soils. Both remove valuable organic matter and most of the clay content, leaving the coarser, less useful material behind. Increased erosion and decreased productivity follow.

He told of another case where winds and rain did double damage. "Near Maidstone, after sandy soil had been plowed and disked a heavy rain caused severe water erosion. Three days later the soil was moving although there was very little wind. In nearby fields where trash had been anchored on the surface there was no appreciable erosion."

WATER erosion can do big damage very quickly. A farmer near Oungre should have contour farmed all his land, Mr. Dehm recalled. A single rain storm had caused very severe erosion. He estimated that the top inch of soil had been removed.

A dairy farmer near Rhein sold his cows and broke up most of his pastures. He decided there was less work and more profit in wheat than in dairying.

When a single torrential rain removed nearly half the top soil on his newly broken fields he decided right then to go back to dairying. He believed that a good grass cover was the best insurance against losing the rest of his top soil.

In recent years water erosion has become more and more a problem because the gradual loss of organic matter has resulted in a reduction of the rate at which water is received into the soil. "This," Mr. Dehm explained, "with high speed tillage and a general lack of trash cover is causing more and more water to run off the land instead of going in.

"Under dry conditions cropping and tillage practices should combine to prevent water from running off the land and causing gullies."

WATER erosion is most severe where there are long, gentle slopes. Many gullies are so deep that the fields are cut in half. Many of these were natural water runways and never should have been farmed.

Whenever you see a natural runway in your field you would do well to seed it down to grass. If it hasn't gullied yet it will in due time if not protected in this way.

A few miles south of Melfort, along the old '44 trail is a farmer who has been having a quiet laugh with himself at the expense of his neighbors. A good farmer who keeps his soil on his own farm by good cultural practices, he has been getting large quantities of his neighbors' best top soil. His farm lies at the lower end of a long, gentle slope. His neighbors higher up on the slope have not been using good cultural practices. He claims that on some parts of his farm there is as much as nine inches of new top soil.

A farmer on a medium textured loam soil near Senlac had severe wind erosion during the early '30's. "I vowed it never would happen again," he told Mr. Dehm. He now uses a combination of strip farming, trash cover and lumpy surface. Since adopting these practices he has had no soil drifting.

His land is lightly rolling and he has had some water erosion lately. He is putting in diversion channels and grass runways to stop that. To provide a little more acreage he is draining several of his larger sloughs down a natural ravine. Others he will pump out to irrigate land seeded to grass.

On some of the steeper slopes where water erosion was bad he is putting the land into grasses to restore organic matter and to increase the infiltration rate. These two things alone will greatly aid in stopping water erosion. He is thinking of increasing his herd of beef cattle if necessary, to make use of the forage which the increased acreage of grass will provide.

(*Please turn to page* 51)

Extensive swine research at the Lacombe Experiment Station may demonstrate

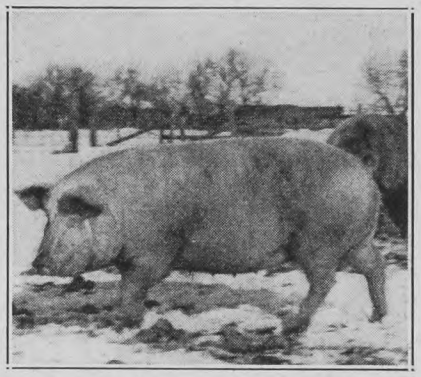
How to Get a New Pig

by **H. S. FRY**

IMPROVING breeds of livestock is a very slow job, whether by selection, inbreeding, line breeding, or crossing. The problem presented to the animal breeder is much more difficult than for the plant breeder, who has two very great advantages in his favor before he starts to work. One is that he can self-fertilize his plants; and he can grow, in very small space and at a comparatively small cost, very large populations of plants from which to make selections. A single seed from a desirable plant may be good for scores of plants in the next generation. With livestock, an animal cannot fertilize itself, and large populations, invaluable to the breeder, are extremely costly to maintain.

This difficulty is responsible for a lack of precise information as to the quickest and most desirable method of animal breeding, a condition which lends interest and utility to the swine breeding research program now under way at the Federal Experimental Station, Lacombe, Alberta. For many years this station has been noted for its attention to experimental research in swine feeding and feeding methods, pasture and land management studies, but about 1946 this work was broadened to include research in swine breeding.

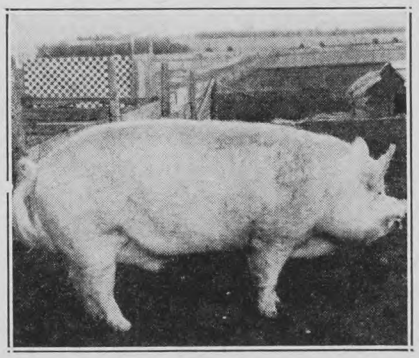
It is pertinent to inquire here why such a program should have been undertaken, when the Yorkshire breed is so much the dominant breed of swine in Canada. To begin with, we should recognize the fact that, for at least 80 years, Canada has consistently produced more pork than her people were prepared to eat; and that for all of this time we have been regularly exporting some bacon to the British market. Moreover, it is at least 45 years since the attention of Canadian swine producers was first directed to the achievement of Denmark, in developing a type of bacon hog eminently suited to the British market. It was not until 1922, however, that following a national hog conference called in Ottawa, a national bacon hog policy was initiated. This led first to the live grading of hogs, then to rail grading on a voluntary basis, and finally, in September 1940, to compulsory rail grading.



Crestiness shows up in first cross of Landrace-Chester x Berkshire.

Immediately after 1922, the miscellany of swine breeds then carried in Canada, began to disappear in favor of the Yorkshire. Some well-known breeders began the development of bacon-type Yorkshires, following their own ideas; and the efforts of the Dominion and provincial governments were directed toward the improvement of the bacon hog. From an average of less than 12 per cent Select (top live grade) hogs in Canada in 1922, an average of about 32 per cent was achieved by 1938. Since that date, some improvement has occurred in Ontario, and a more substantial degree of improvement has been brought about in Prince Edward Island, but in the remainder of Canada it would be difficult to prove that any real betterment has occurred during the past 13 years.

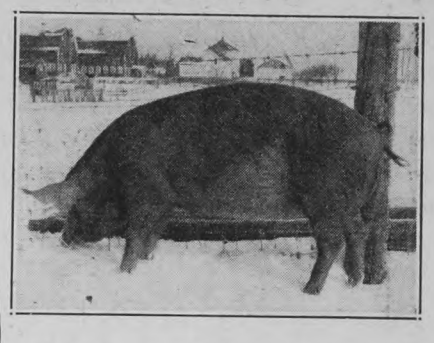
This standstill in market quality is all the more notable because, during all of this period, important findings in nutrition and management have been made available; provincial and federal governments have been engaged in assisting breeders and feeders to obtain what were believed to be good quality boars and sows; and the Advanced Registry for Swine has been in continuous operation and available to all breeders for testing the bacon quality of breeding stock. It is true that an appreciable part of the reason why seven hogs out of ten do not reach the top rail grade is because they are marketed at overweights. It is likewise true that carcass grades and Wiltshire grades are not identical, so that some B-Grade hogs find their way into the A-Grade Wiltshires. Undoubtedly, however, one of the factors contributing to our slow progress, has been the confusion as to type existing in the minds of the ordinary producer of market hogs, and in the minds of reputable breeders. The judging of live hogs in the show-ring has not lessened this confusion. Indeed, the disparity between bacon quality and show-ring quality has become so great that, in too many cases, championship winnings no longer provide any guarantee of quality on the rail, if they ever did.



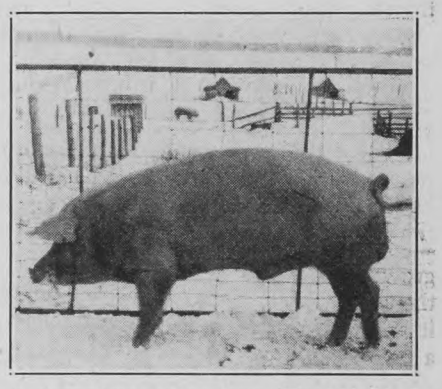
First cross Landrace-Chester x Minnesota No. 1.

CANADIAN hog policy is, nevertheless, geared to the white bacon hog. In 1936 Canada obtained a quota of 250,000,000 pounds of bacon or pork per year on the British market. This quota still exists, though we no longer have British bacon contracts, as we had for ten years until this year. Whether we ship our surplus to Britain, or to the United States, or consume a still higher proportion of our production on the domestic market, the fact still remains that it is no longer profitable to feed fat on a hog, except for the proportion of fat necessary to make a carcass of good quality. It is much cheaper to produce these food fats in the form of vegetable oils. Even in the United States, during recent years, average market weights of hogs have been decreasing, and attention is being paid to the development of leaner types, of which the new Minnesota No. 1 breed is a good illustration.

Right: A Minnesota No. 1 gilt; and (below) a 75 per cent Landrace-Chester, 25 per cent Berkshire sow.



These changing conditions have also led to an increasing necessity for a more economical hog. Better feeding and management, while of great importance under all circumstances, is not alone the answer. Competition for the efficient use of feed and for the consumer's preference, must come, it is generally agreed, from a white hog, lacking the unevenness in type and performance of our present Yorkshires. It is to the production of this lean, competitive, market hog that the swine research program at Lacombe has been dedicated, in co-operation with other federal experimental farms and stations at Brandon (Man.), Ottawa, Scott (Sask.), and Ste. Anne de la Pocatiere (Que.), and Fredericton (N.B.).

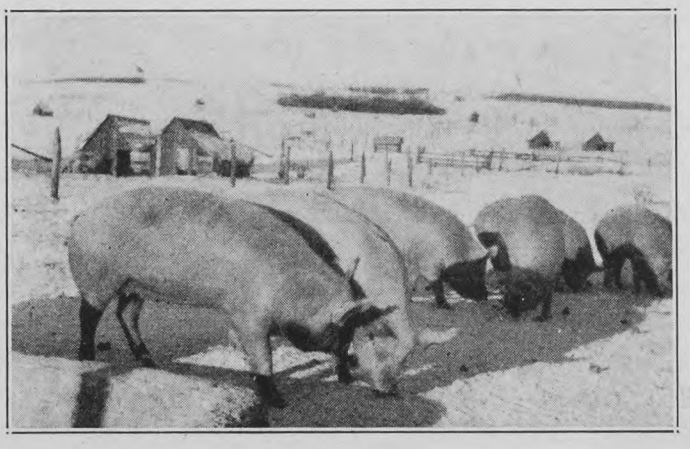


A foundation Landrace-Chester boar.

THE general plan of research under way at Lacombe, according to J. G. Stothart, senior animal husbandman, is "to develop strains of high quality, economical bacon hogs, which are free from undesirable characteristics; and in so doing, to test different breeding systems and to study the inheritability of bacon characteristics. Little is known of the latter, and as large numbers are essential to thoroughly test a system or strain, such a program is necessarily costly and of a long-term nature. Each generation is carefully evaluated before matings are made for the next, and a complete study of several generations will be required to measure progress."

"To compare the methods under investigation, and appraise the relative merit of the various lines and strains on test at Lacombe," Mr. Stothart explained, "all sows and litters, breeding stock and feeder pigs are handled and fed in the same way. Selection of breeding stock for future generations is based on litter mate performance; and from all litters on test, four pigs (two barrows and two gilts) are fed to market weight,

(*Please turn to page* 40)



Above: He looks good but is a low boar with low litter mates and offspring.

Left: These Lacombe strain inbred gilts had litter mates averaging 82 on A.R. carcass score.

Stephen Wayne had labored to keep the mine property for Nancy Arnold while she was absent attending school in the East, regarding the sacrifice a cheerful one. In this opening installment of a three-part serial Nancy returns to Valleria

Wayne's fighting blood was up. "We'll begin at the beginning," he suggested, taking Nancy by the arm and leading her toward the tunnel.

THE ARNOLD

"DEAD sure she's on this evening's train, are you, Wayne?"

Stephen Wayne, boss of the Arnold Lode Mine, turned from watching the distant blue notch in the Canadian Rockies.

"Dead sure, Jim," he answered young Dorval, his loyal tunnel-master. "She wired me from Winnipeg, then from Edmonton."

He looked again at the blue notch, for the Transcontinental was due. In the glass of the station window he glanced once at his reflection and straightened his soft, grey hat.

The reflection showed a man thirty years old, tall, grey-eyed, strong of feature. There were tell-tale crowfeet of worry and overwork beneath his eyes. His hands were acid-stained, and his white collar showed up his dark bronze plainly.

His new tweeds, he noted, looked all right, but they felt strange. He wanted to be out of them and into his workaday corduroys again. He smiled as he recollected what Dorval had said an hour ago at their cabin:

"You've plumb lost the knack of being lei; surely, Wayne. Hell, who wouldn't—doing what you've done! You'll be the better for a long vacation, especially since it'll be your honeymoon. You and her are *hyaking* into the mountains, *neppy*, son?"

Dorval, beside him now, was smaller of build and three years younger. French blood showed in his black hair and eyes and his impulsive, ardent nature. A college man from a Maritime province, he was Wayne's subordinate but his partner none the less.

"Ble'e me, you're lucky, Wayne," he mused. "Only the Lord knows when I'll be down on this platform waiting for *my* train to come in."

"You can bring Eleanor out this summer, Jim. The old mine won't stand much increase in expenses, but I'll swing you a decent salary somehow. The four of us will have a good time together."

Around them at the station a little group had gathered for the event of the Transcontinental's arrival. Here and there on the platform one heard the soft, guttural of the Chinook jargon, the common language which French and English and a dozen Indian nations used with one another.

There were several bewiskered, raggedy old sourdoughs, in from the color creeks for grub and human company. A knot of "Norski" timbermen from the lumber camps in the mountains, a mounted policeman talking to a fire ranger. A big powerful Indian, Attistah, from the "Lost" Beaver tribe; two Blackfeet *metis* idling in the evening sun—lazy, *cultus* halfbreeds who guided the occasional tourist and loafed between times. A sportsman with dufflebags and varnished fishheads stood waiting for the Transcontinental to whirl him on across the mountains to the salmon streams of the Pacific.

A mere "jump-down" in the heart of giant ranges, Valleria was linked to civilization only by the slender ribbon of steel. No auto road or wagon trail could get into it; canyons, lakes and tumultuous rivers barred the way, to say nothing of the mountains.

BACK of the station was the Arnold mine—a shaft entering a slope, a stamp-mill, the houses of the workers, and the gaunt frame residence which old P. K. Arnold had built. On a knoll above the mine towered the great pine tree, lightning-seared but still staunch, where the mine-owner had been killed four years ago.

The story of those four years was a story of self-sacrifice and loyalty on the part of Stephen Wayne—loyalty not to old Arnold, but to the person for whom he held the property in trust.

At its best time the mine was only a poor excuse. Under less able managing it would have been closed down and Valleria deserted. The shaft had tapped only a niggardly pocket of the rich mother lode. The parent vein that gave color to the creeks and had baffled a generation of prospectors, lay elsewhere, hidden in the wilderness of mountains.

Though he knew little himself about mining, old Arnold was shrewd enough to know a good engineer when he saw one. Recognizing Wayne's genius, he had given over the reins even before his death, and specified in his will that Wayne was to be manager of the mine.

When he might have been using his abilities elsewhere at a salary of his own naming, Wayne had taken the burden on his shoulders and sacrificed the most precious years of his life in keeping the mine alive. For if it closed down, Nancy Arnold would be penniless; and he was the only man capable and willing to take the job.

THE memory of those two sunlit years between his coming to Valleria and Nancy's going East to school just before her father's death, had made that sacrifice a cheerful one for Wayne. He had lived largely in the expectation of her return, of the moment just ahead of him now.

There was nothing of the father in the girl's make-up. Sweet-souled, candid and laughter-hearted—Wayne often had thought that her mother must have been like her and had been crushed by the dour nature and hard-handed rule of Arnold.

From the first a friendship was struck up between the girl of seventeen and the young engineer. As she grew into young womanhood, the comradeship deepened into something more powerful and fundamental. They never mentioned it to each other, never gave the old Roman excuse to thunder his disapproval at them, though he must have seen their intimacy.

Even when she left, their engagement was unspoken. She was very young; Wayne was the first man to make a profound impression on her. He considered it unfair to bind her with a promise before she had been able to compare him with the other men she would meet.

Only Jim Dorval and Hyacinthe, the office manager, knew how Wayne had labored those four long years to keep Nancy's property for her. He had taken no wages for himself; the mine simply would not stand it. There had been times when the ghost had not walked for the workers, and they stuck only out of loyalty to their boss till he could pay them again. The fear that the vein would run out haunted him constantly. He was handicapped by a poor mill and poor shaft equipment, tied down by lack of money and by the strict injunctions of the Arnold will.

MASSIVE and dominating in his lifetime, old Arnold had tried to rule on after his death. His will minutely regulated the policies of the mine and dictated this and that to its superintendent. For all his punctiliousness about it, the legacy that he left was destined to work evil: debts, sullen tempers among the workmen, a mine struggling to keep up, and a superhuman task for the man who took up the burden.

What other things of evil there were in old Arnold's legacy, Wayne could not even guess. He had seen only that portion of the will which related to himself and the property.

Nancy knew nothing about the situation at the mine. Her father had known little enough about the true nature of the lode, preferring his own opinion to Wayne's report. He had kept his daughter in complete ignorance about the mining operations, for his philosophy of woman's place was summed up in the word *household*.

Wayne himself had not written her the truth; he did not want to cast a shadow over her carefree

by **WILLIAM BYRON MOWERY**

LEGACY

years at school. To her, a gold mine meant something tremendously rich. She did not understand why the cheques she received were often meagre.

Several times in her letters to Wayne she had wondered about it, and once had written rather sharply, asking the reason. One of her summer trips to Europe had almost floundered the mine and turned Valleria into a ghost camp.

But that was all past now. The ore-bearing vein had taken a notion to widen suddenly into a respectable size. The assay-sheet was looking up. The workmen were getting good wages. The last debt had been lifted in May. And *Nancy was coming back that evening.*

IN the blue notch ten miles eastward a black smoke-streamer rose up above the forest and faded against the sky. Wayne watched it intently, unconscious of Jim's words or the stir upon the platform.

In a few minutes the Transcontinental came in sight down the tracks. The rails began to sing. At the platform edge, the old station-master wig-wagged the signal that he had a passenger going West. The long train thundered into Valleria and stopped. The sportsman got on.

Wayne's heart stopped pounding—till he caught sight of a girlish figure, tripping down the steps a coach away. He hurried to meet her, Dorval following discreetly.

He had told himself that the four years since the day they bade each other *klahowya* had necessarily changed her, but he was hardly prepared for so utter an alteration as he saw. In that moment of their meeting she seemed so like a stranger that he hardly knew how to greet her.

She was a woman now. She had grown more beautiful, more alluring than the Nancy he had known. She had learned how to make the most of her lithe, graceful form, of her light brown hair and blue eyes and features exquisitely molded. Her travelling clothes, trim and jaunty, were a dozen times prettier than any she had ever worn before she had gone East. Her very manner was different. The frank, open-heartedness of the girl who had left four years ago was changed to a calm poise and reserve.

She smiled when she saw him, and gave him her gloved hand. Her word of greeting seemed studied, her smile artificial and cold. But in another moment, when he clasped her hand, the feeling of estrangement vanished for him. Four years and all the change they possibly could bring about meant nothing against his affection.

In Wayne's oblivion to everything but Nancy, he did not notice that a second person had come down the steps behind her. He was aware of it only when she withdrew her hand and turned, half facing each of the two men.

"Mr. Wayne, I would like you to meet Mr. Tregor."

For some reason the words jarred Wayne as if he had been struck a blow. He looked at the man standing beside her: a stranger of his own age and build; a handsomely dressed man with quick, intelligent eyes and an air of polished politeness.

He turned bewilderedly to Nancy, his glance a question about the stranger. She understood.

"Mr. Tregor is a friend of mine, Mr. Wayne."

A friend! He caught the inflection behind the word. The stress of her voice meant something more than friendship between her and the stranger who had come with her to Valleria.

It dazed him. Not a hint had she dropped in her letters. He was no man of granite, to take so unexpected a blow without flinching. He looked from one to the other of them, aware that he was betraying his surprise, but utterly unable to hide it.

"I'd like to shake hands," Tregor said politely, "with the man whom Nancy has mentioned so many times."

Mechanically Wayne took the hand extended to him. As they shook, the two men looked into each other's eyes at levelled gaze. A faint shadow of a smile played on Tregor's lips. He had seen Wayne's emotion; he knew the reason. There was a hint of triumph in his smile.

They shook hands and greeted each other courteously, but the glance they exchanged was a declaration of war.

Jim stepped up and was introduced. He too saw how the land lay. His acknowledgement of Tregor's greeting was so brief and terse that Nancy looked at him sharply, frowning.

The Transcontinental pulled out, leaving the four of them standing together, the little group of onlookers a few paces aside.

Wayne felt he had to say something.

"I had the house put in shape for you, Nancy. I hired a couple of servants, too, You'll probably want to go up right now."

She nodded.

"I suppose there's something that passes for a hotel here?" Tregor asked.

"Yes, but it's not much. If you want to, you can stay with Dorval and me. We have a cabin at the edge of the lake."

"Oh, that would put you to bother," Tregor refused. 'I'll tackle the hotel. Here, you smoky—"

At the gesture, the Beaver Indian stepped forward. Tregor extended a dollar bill and pointed to the grips.

"Take them to the hotel."

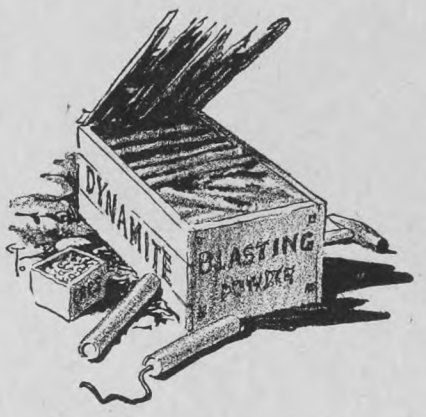
THE Indian drew himself up and haughtily wrapped his *narkin* around his shoulders. He looked at the money scornfully insulted by the epithet and the offer alike. On the portage path in the wilderness he would carry a heavy load a mile for half of that dollar; in the white man's town he was too proud to stir a finger.

Jim grinned at Tregor's sad mistake.

"I'll take a couple, you a couple," he suggested, picking up the two heaviest. "None of these men have 'To let' signs up."

Wayne knew it was Jim's adroit move to leave him alone with Nancy. In courtesy Tregor could not refuse. He picked up his other grips, nodded and caught up with Jim. Wayne ordered the two 'breeds to take her baggage to the Arnold house. He and Nancy followed.

Despite the four years, Nancy seemed to have little to say. They left the station, passed the fur-trading store, the land-office, a timber yard, the dozen houses that Valleria comprised; started up the path to the Arnold house before she spoke. And then it was a comment on the weather!



"June is a beautiful season here, Mr. Wayne. Always at this time I've been homesick for Valleria—the lake and the ranges."

Mr. Wayne! He had just called her Nancy. It was a plain hint she did not wish him to use the intimate name. He looked away, out over shimmering Lac Valleria, and wondered if he were not dreaming it all.

Nancy was speaking again. She must have known what he expected at her return. She must have seen his painful bewilderment at the station, and realized what tragic irony her homecoming had been for him. As if reading the questions in his mind, she began telling him something about Tregor; subtly explaining her relations with him. Wayne listened.

He gathered that Tregor was a mining engineer like himself, member of a college faculty, but with practical field experience too. She had met him two years ago when he was lecturing at an eastern university. He had been acquainted with her father. He wanted to look over the mine—and visit there awhile—and—

Wayne waited for her to say frankly that she was engaged to Tregor. The question throbbed in his mind. But Nancy had learned how to dissemble. She veiled her thoughts and emotions from him.

Another strange thing in her attitude: he felt, as they walked up the path, that she was deliberately steeling herself against him. She would not speak about their two years of comradeship. She would not assume, or let him assume, that the previous intimacy had ever existed.

When he tried to remind her of it, or to call up that intimacy out of the past, she quietly interrupted with some remark not fraught with danger.

Her coldness might be due partly to Tregor's influence. But that would not explain it all. Surely she was too just to listen to malicious whisperings. Perhaps she was trying to show him from the start that she loved Tregor now. But why did she not openly say so? And why was she on her guard?

At the stone gateway she stopped.

(*Please turn to page* 85)

Illustrated by Clarence Tillenius

Mary's grey eyes were steady as she said: "Bill needs things for the farm more than I need a washing machine."

A Matter of APPRECIATION

How much can you depend on masculine understanding? Betty Rimstead had positive views about it. Mary Delton wasn't sure, and didn't find out till the boys saved their money to buy a jalopy!

by **KATHERINE HOWARD** **Illustrated by J. H. Petrie**

"I'LL bring back this sugar as soon as Len goes to the store." Betty Rimstead held the basin containing the borrowed sugar in small, plump hands, and stared at the energetic figure of Mary Delton bent over a wash-tub.

"Beats me why you don't make Bill buy you a washing machine," she went on. "With four boys and a man to wash for, I should think you'd need one."

Mary straightened. With a capable, wet hand she pushed back a lock of blond hair from her flushed forehead. Her grey eyes were direct and steady. "Bill needs things for the farm more than I need a washing machine," she said, but she couldn't help thinking that it wouldn't hurt Betty Rimstead to offer the use of her washer, once in a while.

Mrs. Rimstead sniffed and her petulant mouth curved disagreeably downwards.

"You're crazy," she said, her hard, blue gaze travelling around the shabby farm kitchen. "Men don't appreciate women 'less they have to spend money on 'em. Neither will your boys, you'll see. And I bet your husband thinks it's okay for you to do things the hard way."

Mary's generous mouth tightened. "My husband," she said, with a level glance at her neighbor, "is the best husband in the world. When he can afford it, I'll get a washing machine." She bent to her task again.

"Well . . ." Mrs. Rimstead said maliciously, "you'd think when you've been married 20 years, you could afford one."

"Listen," said Mary. "You've been farming for three years . . . pretty good years too, though you are only starting. But Bill and I . . . we came through the bad years, the hungry '30's. Jim was born in '33 and Pete in '36, and times were hard, I can tell you, Betty. We got behind in those years. It's taken a lot of catching up . . ."

"All the same," countered Mrs. Rimstead, as she stood with her hand on the doorknob, ready to depart to her home across the road, "I tell you men don't appreciate a woman who sacrifies herself. Those kids of yours don't appreciate what you do for 'em, either. You won't catch me putting myself out for Len, or Doris and Billy. My husband and kids put me first. Well, s'long. Thanks for the sugar."

She left, banging the door after her. With a heavy sigh, Mary Delton opened the kitchen window wider, and sat down in the old brown rocker, a worried frown between her grey eyes.

Unwittingly, Betty Rimstead's words had probed a sore spot in Mary's mind. Her husband and her four boys were her whole life, and something was happening to the two eldest, 17-year-old Jim, and 14-year-old Pete.

Were they really careless and unappreciative, or was the studied, off-hand manner they lately had affected all in her imagination? The twins, Don and Dave, at ten years old, were too young to understand appreciation. All they knew was love and care and the exuberant fun at home. But the two older boys!

I KNOW what it is, thought Mary. It's their senseless craving for an old jalopy of their own. She had heard them discussing the purchase of an old light delivery truck by Fred Atkins, a friend of the boys.

"He's going to strip it down and soup it up, and make a real 'Hot-rod' of it," Pete had said enthusiastically. "Boy, wish we could get hold of a second-hand jalopy, Jim."

"Watch the sales, fellow," Jim had answered, "and save your money . . . We'll have one yet."

Why couldn't they be satisfied with the old family car? wondered Mary. Of course, it was a heavy old thing. You did not dare to drive more than 30 in it. Why couldn't the boys stay little fellows? Why did they have to grow up with plans and ideas they didn't want to share with their mother?

There was not a healthier, happier, better-cared-for bunch in the whole of Creston hamlet, than the Delton boys. There was always plenty of food on the big table in the Delton kitchen, and usually a couple of neighbor children to help eat it.

"She's happy-go-lucky," said her neighbors, when they left their children to spend the night in Mary's care, while they themselves took in a show, or visited the city. "Mary doesn't mind looking after them."

Mary rose abruptly from the rocking chair, and finished her wash in a hurry. She had forgotten that she had promised to press Jim's best pants.

"I wonder if he's got enough money to buy a box at the social tonight," she pondered as she put on the old flatirons to heat. "He said he was broke. What that boy does with his money, I don't know. Of course, he gave his dad what he earned threshing to help pay for the new well . . . Still he should have some . . ." She laid the trousers on the ironing blanket. As she waited for the irons to heat, she went into the small bedroom off the kitchen, that was hers and Bill's.

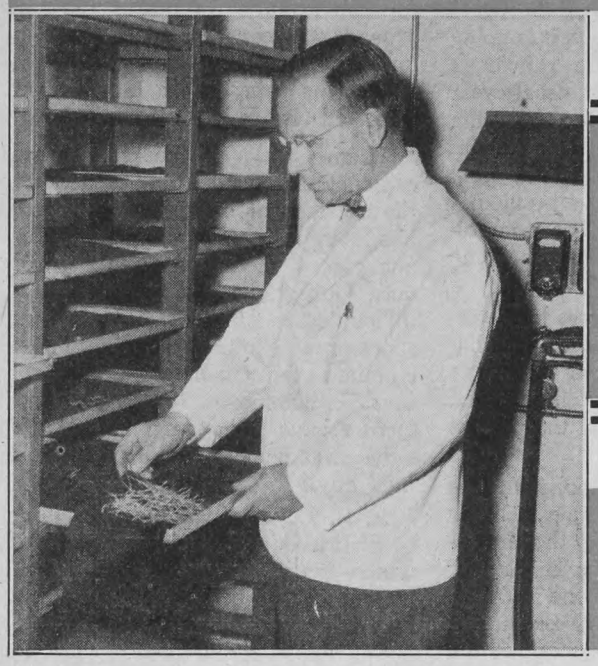
She dived into the dark depths of the tiny clothes closet, and emerged, clutching to the bosom of her blue and white cotton dress, a red tobacco can. She sat down on the bed and tipped out its contents.

Dollar bills and nickels and dimes cascaded forth, and Mary sat and gloated over her hoard. There was twenty-five dollars and sixty cents. She was saving to buy a washing machine. She wouldn't have admitted it to Betty Rimstead for the whole world, but she wanted a washing machine more than anything else.

She didn't mind going without nice clothes so that the boys could have all they needed. She could clean, scrub, paper, calcimine, dye and renovate so that the house would always be cosy and pleasant. But she dreamed wistfully of the day when she would be able to buy a washing machine. She heaved a long, anticipatory sigh at the thought.

(*Please turn to page* 56)

Seeds of all kinds are examined for weed seed content and tested for germination in Canada's eight Plant Products laboratories



by RALPH HEDLIN

Seed Detectives

Everett Robertson, District Analyst, Plant Products Laboratory, examines some sprouting wheat.

HAVE you ever spent an afternoon attempting to find whether there is a single sweet clover seed in a half-ounce sample of red clover, or a single seed of sweet clover in a sample of alfalfa? It sounds too difficult to be worth the trouble, yet this is the type of work regularly done in the Federal Plant Products Laboratory, directed by Everett Robertson in the Dominion Public Building, Winnipeg. The same work is done in government laboratories in Saskatoon, Calgary and Vancouver, in their respective provinces.

Samples of seed come to the Plant Products Division from farmers, registered seed growers, customs inspectors, importers, seed houses and, in fact, almost any one interested in the use or sale of seed. Sometimes all that is required is a germination test, so a farmer can tell whether his grain will grow if he seeds it. In many cases a report on the weed seed content is also required, as it is necessary to have this data in order to sell seed under a grade, such as registered, certified or commercial.

When a seed sample arrives it is given a number in the office of the district supervisor, J. E. Blakeman, and sent to the district analyst. If a test for weed seeds is requested, the sample goes on to the purity room, and one of the analysts there determines the number and kind of weeds that it contains.

This test must be carefully conducted. The weed seeds are reported on the basis of the number per pound, per ounce, or as a percentage by weight, depending on the kind of seed. With some of the smallest seeds, such as the bent grasses, a sample of one-sixteenth of an ounce is used. The quantity analyzed depends on the seed size.

WEED seeds are separated out of the sample, and classified according to harmfulness in that particular crop. There are four classes of weed seeds: prohibited noxious weed seeds; primary noxious weed seeds; secondary noxious weed seeds; and other less noxious weed seeds. In testing a sample of clover the analyst thoroughly mixes the sample submitted and weighs out one-quarter ounce of seed. The next step is to shake the seed through a series of screens of increasing fineness so that the sample is divided into several lots, representing seed of different sizes. The analyst goes through all of these lots, and picks out the weed seeds, and records the number and kind. Another quarter-ounce sample is weighed and the same procedure followed, but this time only noxious weed seeds are recorded. If the sample passes these tests and is likely to be No. 1 seed or better, or is likely to be on the line between two grades, a half-ounce sample is weighed out, and is examined. As a matter of interest approximately 16,000 seeds are found in an ounce of sweet clover seed.

For those who wish to examine their own seed, it might be of interest to know the surface best suited to this work. Light blue bond paper stretched tightly over a piece of heavy glass is used. Wet the paper and put it on the glass, fold it over the edges of the glass and glue it on the lower side. As it dries it will draw taut. Place the seed on it and do your work in natural light.

One of these Federal Government Laboratories examines all of the seed offered for sale in commercial channels in Canada. To protect customers and prevent the spread of weeds the Seeds Act lays down certain standards for seed in the different grades, and makes it illegal to sell seed without the government stamp of approval. Seed of any kind sold as Registered No. 1 in Canada must be entirely free from noxious weed seeds. The producer who buys Registered Nos. 1, 2, or 3, Certified Nos. 1 or 2, or Nos. 1, 2, or 3 Seed, can be reasonably confident that he is not introducing many weed seeds into his farm. A glance at the table in this article will indicate the number of weed seeds that would be tolerated in the different grades of wheat. Standards for other grains are comparable.

Top: In the germination laboratory analysts make counts of germinated seeds under test, while in the purity room (below) seed samples are scrutinized for weed seed content. [Guide photos.

A GERMINATION test looks like a simple undertaking and, in some ways, is not very difficult. However, when you set up a laboratory to test any and all seeds that might be sent in, it becomes more demanding.

The technique to be used in determining the viability (ability to grow) of a seed depends on its normal time and form of growth. All seeds need air, light, heat and moisture in order to germinate, but they need it in different proportions. They also take varying times to germinate. For example, wheat will complete germination in about ten days, while Kentucky Blue Grass will take anywhere up to 28 days.

Three temperatures are most frequently used for germination work—10, 20 and 30 degrees Centigrade. If a farmer sends in a sample of wheat it goes in at ten degrees C. (50 degrees Fahrenheit) for three days, for a prechilling period. This breaks the so-called dormancy, and the seed then goes into a germinator at 20 degrees C. (68 degrees Fahrenheit) for a further seven days, after which the count is made. This procedure is more or less closely followed for all cereals. Grasses are usually prechilled for two to six days and tested at 30 degrees C. (86 degrees Fahrenheit). At night the temperature is allowed to drop to 20 degrees C. Garden seeds are germinated under similar temperature conditions. The seeds are on test for varying periods up to four weeks.

Moisture and light requirements are also recognized. Kentucky Blue Grass needs a great deal of moisture. It is placed on sand in a covered petri dish, and kept almost wet. Wheat is tested in blotting paper which is folded so the germinating kernel is exposed to moisture from above and below. With most garden seeds the seed is laid on a piece of blotting paper and placed under relatively strong lights, because such seed requires much more light.

(*Please turn to page* 44)

Anticipating the Legislative Crop

British Columbians speculate on the mixture of figs and thistles expected from this year's legislative crop

by **CHAS. L. SHAW**

BRITISH COLUMBIANS will soon know how much it is going to cost to run the province's affairs during the next fiscal year (probably another record-breaking sum), whether the Pacific Great Eastern Railway is to be built from Squamish to Vancouver, as previously promised, and whether the compulsory hospital insurance levy is going to be higher.

These things will have to be determined very soon because the legislature is in session, and the legislature alone can make the decisions; in fact, is pledged to do so during the present sitting.

But it is probably too much to expect that the legislature will do anything tangible about the much-criticized liquor situation. This liquor issue is introduced in one way or another at almost every session, the demand usually being for modification of the present system whereby beer by the glass may be sold only in quarters where food cannot be legally served and hard liquor may be purchased only in government stores by the bottle and may not be consumed "in a public place." It has been claimed that the present system encourages excessive consumption of beer, because of the ready access to the so-called parlors, and also of hard liquor inasmuch as the tendency often seems to be to "finish the bottle" since whisky, gin, rum or what-have-you cannot be purchased by the glass in restaurants or hotels, as is the custom down the coast and in eastern Canada.

But spokesmen for the government have invariably shown reluctance to tamper with the present arrangement which yields a steady increase in profits to the treasury, since the government enjoys the liquor monopoly, and they are always prepared to produce a sheaf of letters from clergymen and other respected groups protesting against any suggestion favoring a more "open" policy such as the establishment of cocktail bars might represent.

Since liquor may be purchased in a great many private clubs, some of which are not so very private, there is a certain hypocrisy about the liquor situation in British Columbia, but as we intimated a few paragraphs back, it hardly seems likely that anything will be done about it. The government seems indifferent even to the proposal that a plebiscite be held so that the people themselves could indicate their views.

MEANWHILE it is reported that the government is planning to sugar-coat the rising cost of its hospital insurance scheme by absorbing it into the sales tax, which has been exceedingly remunerative, without causing much pain. To meet the increased hospital charges, however, this sales tax rate might have to be increased slightly, with a counter-concession to make the sales tax no longer applicable to restaurant meals.

There was a time—and it may come again—when British Columbia looked to the United Kingdom as the one really dependable, all-weather market for her exports. So far as the fruit growers are concerned, Britain is no longer the mainstay it used to be—no longer the safe harbor in the storm when all else failed.

There are, of course, several explanations. Until a few months ago the shortage of dollars in the United Kingdom prevented purchases in Canada except of highly essential products. During the war years, shipping difficulties and the demands on cargo space of more important freight helped eliminate the Okanagan apple from overseas commerce. Latterly, political factors have been partly responsible—the vagaries of Britain's system of bulk buying.

A. K. Loyd, of Kelowna, president of British Columbia Tree Fruits Ltd., which is the marketing agency for a majority of the province's fruit growers, points out that the United Kingdom's apple requirements were not known until the middle of the picking season. It turned out that the British market eventually absorbed 1,350,000 bushels of B.C. apples, but until the orders were placed the growers could only guess at the amount of business they might get. Now the growers are hoping that the British market may expand still further; otherwise there may be a substantial surplus. In other words, the British market may not be as reliable as it used to be, but it's still well worth hoping for.

THIS has been a rather jittery period for those interested in getting an aluminum industry started in British Columbia. The anxiety has been caused by the discussions in Washington and the decision announced there indicating that United States government money will not be behind the project. However, it develops that the Aluminum Co. of Canada didn't expect support from that quarter and that it is fully prepared to go ahead with the project providing that other conditions are satisfactory.

Even if U.S. federal funds are not available in the form of a loan or as a pledge for purchase of the finished product, Aluminum Co. of Canada is not without highly placed support for its proposed plant at Kitimat, near Prince Rupert. U.S. Secretary of Commerce Charles Sawyer recently declared: "We should get all the aluminum we can, as fast as we can, as cheaply as we can, and from wherever we can. And that certainly would not exclude Canada."

Most of the opposition to the Kitimat enterprise, which would involve development of waterpower in the Nechako basin and establishment of transmission lines and processing plant at a cost of several hundred million dollars, has been from competing American producers such as Reynolds and Kaiser who evidently dislike the prospect of having to face the rivalry of Canadian aluminum, especially at a time when they are planning expansion of their own plants.

By buying Canadian aluminum during World War II, the United States is said to have saved $50,000,000.

The Canadian price started at 17 cents a pound and was voluntarily reduced to 15 cents on three-quarters of the delivered metal. The fundamental reason for choosing the British Columbia site for the new plant is the low cost at which abundant power can be produced. Presumably this would enable the Canadian company to sell aluminum cheaply, too, and this is the situation which American producers dread, even though continued dependence on their own sources of supply by the American consumer would be far costlier.

Meanwhile, regardless of all the talk at Washington, plans for surveying the transmission routes and other requirements are going forward, and authorities usually well informed insist that the aluminum industry will soon be listed among the important factors in British Columbia's economy.

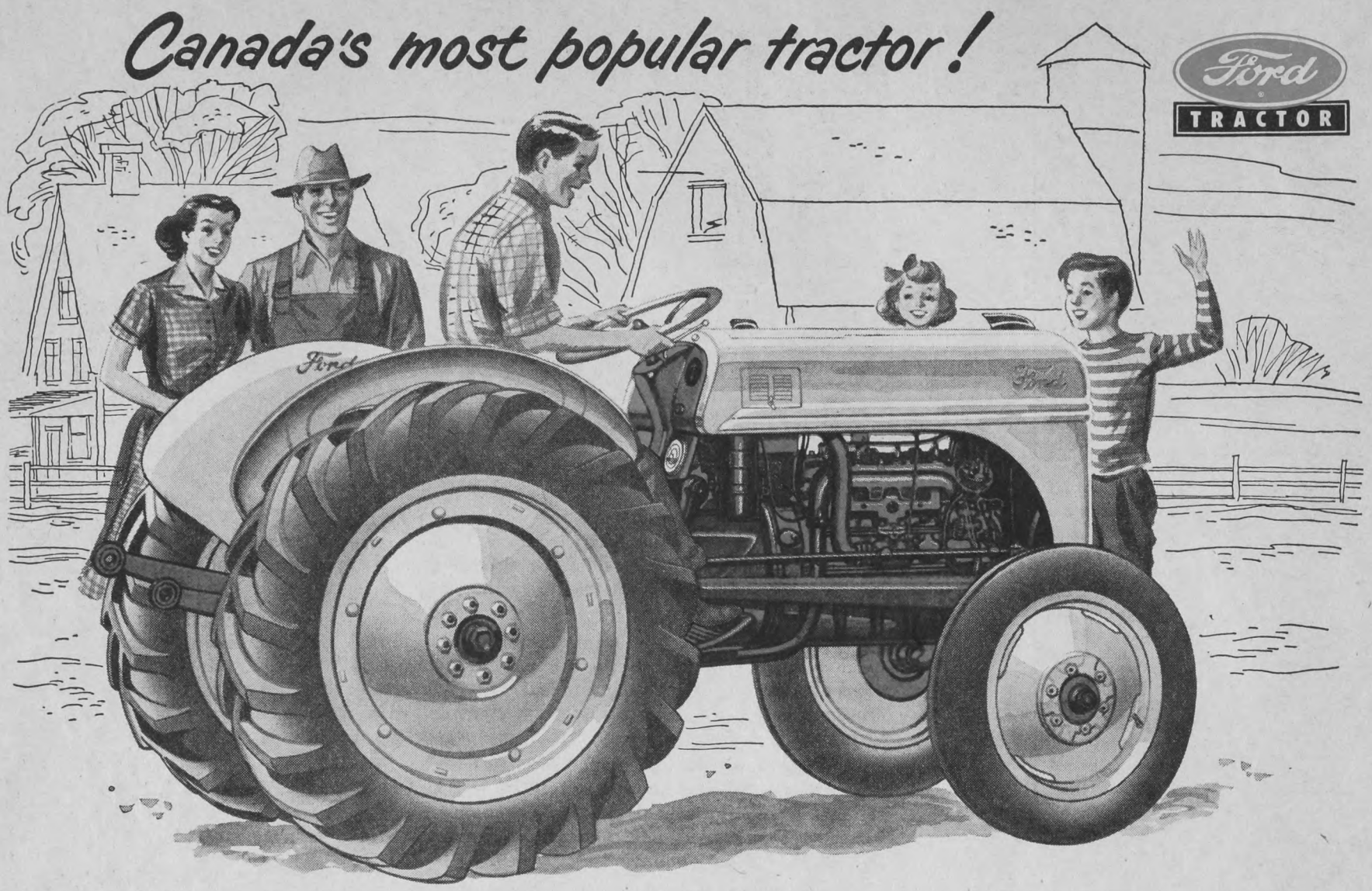
THIS is round-up time in the wild horse country, and roughriders are combing the Nicola Valley and other areas armed with rifles. A few seasons ago thousands of wild horses roamed the grasslands of the Cariboo and Okanagan. During the past few years, as a result of the development of the purebred cattle industry, systematic efforts have been made to eliminate wild horses because of the damage they cause to grazing lands. This campaign has been so effective that today there are only a few hundred animals at large—most of them stunted or otherwise unsuitable for anything but fox meat. Several shipments of horses were recently made to factories in Saskatchewan and across the border in Idaho, but this spring the herds have been so small that it has hardly paid to organize a round-up as in the past, and in most cases the riders have simply shot from the saddle and left the carcasses of the wild horses on the ground for coyotes and vultures.

This is an ignominious end for one of "man's best friends," but the policy of the government in thus weeding out wild horses has often been debated, and the common-sense argument that the remaining strays are merely a menace and cannot be satisfactorily broken to harness or the saddle has invariably won. There is romance in the wild horse, but like many other romantic features of the old West he appears to be doomed to early extinction.

Thanks to the Carnegie endowment funds, British Columbia anthropologists will be enabled to make their first long-term, systematic research into the culture and tribal activities of the west coast's Indians.

Books have been written about these natives, but scientifically speaking the Indians of British Columbia still represent one of the blind spots in anthropological research. As a result of the new financing, university-trained experts will make a thorough-going survey among the Indians, picking up the task where their predecessors such as Prof. Hill-Tout and Dr. Boas left off.

The investigations are getting under way at an opportune time, because students of Indian activities say that if the data is not collected now it will be too late to round out the complete story, for every year sees another link with ancient times severed.



Now even more popular with the exclusive PROOF-METER

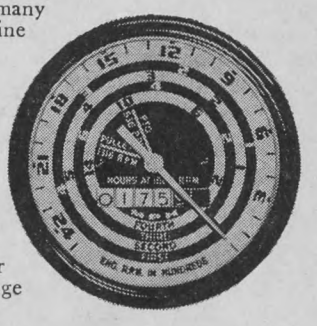
Again the Ford Tractor has proved itself the most popular model with Canadian farmers. Last year, as in every year since it was introduced, more Ford 8N Tractors were bought than any other model in any power class. This wide popularity is the result of the many outstanding advantages of the Ford Tractor. For example, Hydraulic Touch Control to raise and lower implements carried on the Ford Tractor is so simple that boys and even their sisters vie with one another for the opportunity of driving the Ford Tractor. *Now, the exclusive Proof-Meter has been added* to the Ford Tractor—another of Ford's great contributions to efficient tractor operation.

Dearborn Implements, specially designed for use with the Ford Tractor, extend the income production of your farm because they enable you to get year 'round use from the Ford Tractor.

All these outstanding features of the Ford Tractor combined with low first cost, operating cost and maintenance cost, mean greater returns on your tractor investment. That's Ford Farming! It's no wonder the whole family likes the Ford Tractor.

5 INSTRUMENTS IN ONE

1. An engine speed indicator! Tells you how many revolutions per minute (R.P.M.) your engine is turning over.
2. It's a tractor speed indicator! Tells you your ground speed in miles per hour (M.P.H.) in 1st, 2nd, 3rd and 4th gears.
3. It's a P. T. O. indicator! Tells you when your power take-off shaft is running at the recommended P. T. O. speed.
4. A belt pully speed indicator! Tells you how far to open your throttle to get the pully speed required.
5. It's an hour meter! Tells you the number of hours of operation, based on an average engine speed of 1550 R. P. M.



The Proof-Meter tells you the right throttle setting for best performance . . . the right tractor speed for the work being done . . . the right speed for power take-off operations . . . the right belt speed for most efficient operation. Only the Ford Tractor gives you proof of performance.

Ford MONARCH **See your Ford Tractor Dealer for a Proof Demonstration**

Ford TRACTOR

Ford Farming

LESS WORK . . . MORE INCOME

Dearborn FARM EQUIPMENT

News of Agriculture

Recognition for Jesse Throssell, master turkey breeder.

Presentation to Breeder

At a dinner held in New Westminster, February 14, the British Columbia Department of Agriculture and the Poultry Industries Council of that province presented an illuminated address to Jesse Throssell of Aldergrove for his work in establishing and developing the Broad Breasted Bronze turkey in the United States and Canada. Left to right in the above picture: Frank McNeill, who made the presentation; Hon. H. R. Bowman, Minister of Agriculture; Mr. Throssell. The incident had its origin in a feature article which appeared in the October Guide.

France—A Wheat Exporter

FRANCE is expected to export 900,000 metric tons of wheat this year, of which the equivalent of 300,000 tons will go forward in the form of flour. In 1950, France subsidized her wheat producers to the extent of 1,302 million francs, and expects that her export trade in wheat this year may bring in 27 billion francs.

In return for the subsidy, the French government is levying an export tax on her large wheat farmers, which may yield something less than a billion francs, or about half the export subsidy on wheat for 1950 and 1951. The tax is designed to safeguard wheat producers against the dangers of overproduction. The French minister concerned is reported as saying that the tax "is not a high price to pay for a permanent solution of this problem through a policy of permanent exportation."

New U.S. Cattle Grades

THE U.S.D.A. has recently revised the grades of market cattle which were first set out nearly 25 years ago. The new grades are made to conform with revisions in carcass grades for steers, heifers and cows, which have recently been made.

During the intervening 25 years many changes have occurred in the marketing of both cattle and meats. In cattle production the trend, according to the Department officials in Washington, is toward lighter animals finished at a younger age. In the U.S., as in Canada, consumers are indicating increasing preferences for beef that will yield smaller cuts, and has a higher ratio of lean to fat, along with some tenderness. The changing of grade names permitted the setting up of a new grade which recognizes these consumer preferences. This new grade includes the younger animals which produce a smaller cut with a high lean to fat ratio and a beef that is fairly tender because of the age of the animal.

Prime cattle now include both the former Choice and Prime cattle grades. Cattle formerly quoted as Good are now quoted Choice, and the new grade called Good includes cattle formerly included in the top half of the Medium grade. Medium is no longer used as a grade designation. The lower half of the cattle formerly included in this grade has been renamed Commercial, and includes, not only lower quality young animals, but well-finished older steers and cows. Cattle formerly called Common, are now graded as Utility. No changes were made in either the Cutter or Canner grades.

1950 Cash Income

CANADIAN farm cash income in 1950 was 11.7 per cent lower than in 1949, and the lowest since 1947, according to the Dominion Bureau of Statistics. The total for all Canadian farms amounted to $2,169.3 million.

The Bureau says that the reduction in last year's farm cash income is largely attributable to the substantial decline in returns realized from the sale of grains. Canadian Wheat Board payments in 1950, for example, were far below those made in 1949, and in addition, the initial price of wheat to producers dropped from $1.75 to $1.40 per bushel, basis No. 1 Northern. Also, 1950 grades were sharply reduced by the severe frosts in August.

This reduction in receipts in grain is reflected in the totals for the prairie provinces, as compared with Ontario, where cash farm income for the past three years has held closely to $650 million. Manitoba's cash farm income in 1950 dropped from the neighborborhood of $240 million in each of the two previous years, to $192 million in 1950; Saskatchewan dropped from around $540 million in the two previous years, to $404 million last year, while Alberta showed a similar decline

from around $450 million to $362 million. British Columbia, like Ontario, maintained a fairly constant level at close to $100 million.

Yields Not Decreasing

H. E. WOOD, of the Manitoba Department of Agriculture, says that average yields of cereal crops in the province have been increasing rather than decreasing, despite the fact that Manitoba farm land has been cultivated for 70 years.

Basing the statement on Dominion Bureau of Statistics records, Mr. Wood compares an average yield between 1881 and 1950, of 17.3 bushels per acre, with an average of 20.4 bushels per acre from 1939 to 1950. Barley yields were first recorded in 1883 and show a long term average of 24.6 bushels per acre. During the last 12 years, yields have averaged 26.4 bushels per acre. Comparable figures for oats are 32.44 bushels and 34.93 bushels per acre.

Mr. Wood attributes the general increase in crop yields to improved rust-resistant varieties, better farming practices, new mechanized methods of farming and more efficient control of weeds. He claims that rainfall cannot be claimed as a contributing factor because the long term average rainfall in the province is 20.48 inches, which, during the past 12 years, has increased by no more than a tenth of an inch.

Farm Implement Sales

THE Dominion Bureau of Statistics published, not long ago, a review of farm equipment and implement sales in 1949. These totalled $217,089,685, a figure 27.2 per cent above that for 1948. Of this total, 65 per cent was provided by the three prairie provinces.

These are chiefly based on wholesale prices. The Bureau calculates that 21.9 per cent would represent an average mark-up, so that 1949 retail sales of farm machinery probably amounted to approximately $265,000,000.

Manitoba farmers are credited with purchasing 60 per cent more machinery in 1949 than in 1948. The figures for other provinces are 28 per cent more for Saskatchewan, 21 per cent for Alberta, and 24.2 per cent for Ontario.

In 1949 Canadian farmers spent $102,000,000 for tractors and engines, $39,000,000 for harvesting machinery, nearly $18,000,000 for plows, $12,000,000 for tillage machinery, and $10,500,000 for haying equipment.

It is interesting to note that slightly over 3,000 horse-drawn moldboard plows were sold in all of Canada in 1949, and that of these only 17 were purchased in the three prairie provinces.

Hybrid Corn

HYBRID corn represents one of the most outstanding scientific achievements which have affected agriculture during the present century. For all practical purposes, it first came into use in commercial corn production in 1933, when it is officially estimated by the U.S. Department of Agriculture that only one-tenth of one per cent of the corn acreage in the United States was planted with hybrid seed. The corn acreage of the U.S. in that year was 109,830,000 acres. The yield of corn in the same year was 2,397,593,000 bushels. By 1950, 77.1 per cent of the commercial corn acreage in the United States was planted with hybrid seed. Corn acreage had been reduced from the 1933 figure to 84,151,000 acres, and the estimated yield was 3.2 billion bushels, which is roughly one-third more yield from nearly 25 per cent fewer acres devoted to corn. Since 1942, in which year the percentage of acreage devoted to hybrid seed first approached 50 per cent, the United States has harvested seven 3,000,000,000-bushel corn crops, the only crops of this size in its history. Not all these large crops are to be entirely attributed to hybrid corn, but the official estimate of the U.S.D.A. is that hybrid corn has increased corn yields by 20 per cent.

77-Year-Old Tractor

NOT long ago, there was discovered in California, resting in an old orchard off the beaten path, an English make Aveling and Porter steam tractor, believed to have been imported into the United States some time between January, 1871, and June, 1874, during which short period, British road machinery was permitted to come in duty free. It is a small four-wheeled steamer, with wooden front wheels, and is probably the oldest tractor in the United States. According to an article in Canadian Farm Implements, it is a beautifully made piece of machinery and its discovery is significant because its importation into the U.S. predated any serious development of the U.S. tractor industry.

Ramsay, A.I.C. Secretary

RUPERT D. RAMSAY, Saskatoon, has been appointed General Secretary of the Agricultural Institute of Canada, to succeed C. Gordon O'Brien, who resigned in January to become Manager, Fisheries Council of Canada. Mr. Ramsay will assume his new duties at Grindley Hall, Ottawa, the national headquarters of the Institute, on May 1.

R. D. Ramsay

Born in Toronto in 1899, he was graduated from the University of Saskatchewan in 1929, and received his Master of Science degree in Animal Nutrition and Veterinary Science from the University of Minnesota in 1932. He was, for eight years, Extension Specialist in Animal Husbandry at the University of Saskatchewan, and for a further seven-year period was Extension Specialist and Supervisor, Rural Youth Training at the same institution. For some years, beginning in 1944, Mr. Ramsay was leader of the Progressive-Conservative party in Saskatchewan, and is, at the present time, chairman of the Memorial Union Building Fund at the University of Saskatchewan.

In announcing the appointment, W. R. Carroll, of Toronto, national president of the Agricultural Institute of Canada, commented: "Mr. Ramsay's broad experience in the field of extension, office administration, education and journalistic work, will be of decided value in his new post, and he will have the wholehearted co-operation of the Institute's 3,400 members."

Get It at a Glance

Caught in the news about agriculture from many countries

THE index numbers of farm prices of agricultural products in Canada in 1950 (1935-39 equals 100) varied from 188.3 in Prince Edward Island to 264.7 in Ontario. Western provinces varied from 226.4 in Saskatchewan, 243.8 in British Columbia, and 253.9 in Alberta, to 254.8 in Manitoba. The average figure for Canada was 249.3, which compares with 251.8 in 1949, and 252.4 in 1948.

* * *

IT has been announced that the St. Mary River dam, which has been under construction for a number of years, will be officially opened by the Rt. Hon. James G. Gardiner, Canada's Minister of Agriculture, early in July.

* * *

U.S. farmers now get 51 cents out of each dollar the consumer spends for food. Prior to the start of the Korean fighting, they got 46 cents, which compares with 54 cents in 1945. For meats they receive 63 cents out of each dollar; and 55 cents for dairy products, 65 cents for poultry and eggs, and 27 cents for bakery and other cereal products.

* * *

THE December, 1950, survey of hog numbers on Canadian farms shows no appreciable difference between 1949 and 1950. There was some increase in the number of hogs over six months of age, but a corresponding decrease in the numbers under six months. Except for the years 1938, 1947, 1948 and 1949, there were fewer hogs on Canadian farms than in any year since 1936.

* * *

THE U.S. Office of Price Stabilization removed price ceilings from all raw farm products selling below parity, on February 12. These include sugar, poultry, eggs, milk, certain grains and other products.

* * *

THE December Swine Survey indicated that 627,600 sows would be bred to farrow this spring, or about 13 per cent more than farrowed in the spring of 1950. If this forecast is correct, western Canada's spring pig crop may be about 32 per cent above that of 1950.

* * *

PRODUCTION of the average Manitoba farm in 1950 has been valued at $4,263 by the Manitoba Department of Agriculture. This compares with $5,274 during the peak year of 1948, and a low of $739 in the depression year 1937. At $223,801,000, Manitoba's net agricultural production was down 11.6 per cent from 1949.

* * *

CHIEF of Laboratory Services, Plant Products Division, Department of Agriculture, Ottawa, as from February 14 is Dr. Cyril W. Leggatt, who succeeds W. H. Wright, retired recently on superannuation. Dr. Leggatt has been associated with the Department since 1922, having been in charge of the Seed Laboratories at Calgary, Toronto and Ottawa. He moved to Ottawa in 1936 to organize a new seed research laboratory, and will now be in charge of the laboratories of the Plant Products Division throughout Canada. There are eight seed laboratories, one in each of eight districts, chemical laboratories in Ottawa and Calgary, and four laboratories in Ottawa for pesticides, research, microanalysis and Bio-assay.

OFFICIAL Australian estimates indicate that Australian wool will provide $300,000,000 during the current financial year, which compares with the 1949-50 figure, $120,000,000.

* * *

ACCORDING to Farmer and Stockbreeder, a Manchester university economist has estimated that the average purchase price of farms in Britain "with vacant possession" has been about £85. Adding the operator's capital required to equip and operate a farm for the first year, amounting to about £50 per acre, gives a cost of approximately £135 per acre as the approximate cost of starting to farm in Britain.

* * *

HOLY cow! A Canadian press despatch to the Regina Leader Post recently reported (on page two, too) a unique world's record production of what the despatch described as "fat matter in milk." The despatch said of the Quebec Holstein that in 365 days she gave 1,365 pounds of milk, and 31,878 pounds of fat.

* * *

PREMIER D. L. Campbell has announced that a plebiscite on the coarse grains marketing issue will be held this fall in Manitoba. Premiers Douglas of Saskatchewan and Manning of Alberta have intimated that no plebiscites are contemplated in the other prairie provinces.

* * *

THE Canadian Wheat Board Act is to be amended this session in order to provide: (1) that the Board may close each year's crop pool and transfer unsold portions of the crop to the next year's pool at values deemed fair by the Governor-General-in-Council; and (2) that interim payments made to growers need not be the same for all grades.

* * *

HUGH LESLIE, a champion plowman from Ontario's 1950 International Plowing Match, won the Festival of Britain Cup, for the best work by an overseas competitor (nine countries competed) at the Seventh International Plowing Match at Mallusk, near Belfast, Northern Ireland, last month.

* * *

J. P. SACKVILLE, secretary of the Canadian Aberdeen-Angus Association, has hailed the 1951 Aberdeen Angus Sale at Perth, Scotland, as the most successful of any sale of its kind held by the breed. The top price bull sold for $26,350; the top ten bulls averaged $10,836; the top 50 averaged $3,577; the average for 355 bulls was $967.45; and 100 females averaged $475.40, with a top of $5,580.

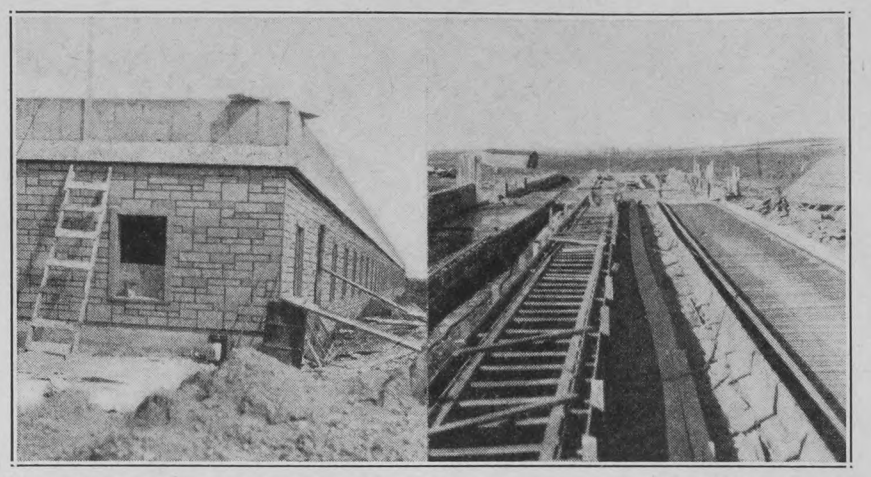
* * *

WHAT next! A speaker at the annual meeting of the Manitoba Horticultural Association told of the operations of a potato laundry in Lansing, Michigan, where "laundered" potatoes of No. 1 quality, put up in attractive, convenient packages, are meeting with a favorable reception from both retailers and consumers. Potato laundry equipment consists of a washer, absorber and drier.

* * *

NEW Zealand is said to be the only overseas supplier of Britain's meat requirement, supplying more meat to Britain now than before World War II. Her prewar volume of 250,000 tons has been raised to 350,000 tons.

LIVESTOCK



Left: A corner view of Laurence Stone's new swine barn and (right) one of two heat channels to run under sleeping compartments.

Ultra-modern Hog House

Alberta farmer builds 300-foot swine barn to house 900 pigs

by MARION McRAE

LAURENCE STONE, Madden, Alberta, has recently completed a hog house which incorporates all of the newest improvements. The basement excavation was begun in 1949, forms laid, and cement poured for the two basement rooms. The cement pillars to support the ground floor, and made entirely of cement, were also completed. An early fall brought construction to a standstill, and work was not resumed until May, 1950.

One basement room, 12 feet by 36 feet, will be used for cleaning the pens above. It will be heated, so cleaning can be done day or night, and the manure spreader left inside where the contents will not freeze until it is convenient to empty them outside. The center basement room is 36 by 40 feet and houses the boiler, tractor, truck and repair bench. The 60 h.p. boiler is operated by a stoker, fed automatically from an adjoining coal bin.

This bin constitutes another wing extending to the west of the large basement room, and entirely underground. It is covered completely to ground level so the coal truck merely backs up to a big chute rising in the center and delivers its load.

The ground floor is bright and airy, lighted by 62 windows. The building itself is 318 feet long by 36 feet wide and 10 feet high, having a center aisle four feet wide, flanked by 30 pens on each side. Each pen will accommodate 15 200-pound pigs, is provided with a no-splash cement trough, and is constructed of heavy planks. A gate in each can be closed to confine the pigs in a 10-by-10-foot sleeping portion, thus creating another long alleyway beside the troughs, to facilitate cleaning.

The sleeping-pen floor is heated from underneath by means of two heat channels of reinforced concrete ten feet by two feet deep, running under the sleeping compartment and above the basement ceiling. Eight warm air registers and four more for return air, keep the floors from overheating. The heat will be thermostatically controlled, and air conditioning will control humidity. There is even a built-in bath for the porkers—the dip vat tank, located at the far end.

Having an eye to the future, Mr. Stone put on a cement roof, with a cement wall extending up two feet. It is therefore ready to erect the second storey if desired. At present the roof is covered with a ten-year bonded roofing over the cement, and a generous opening in the cement wall provides for drainage.

Some idea of the size of the building can be imagined by these details of the materials which went into its construction: 4,200 sacks of cement, 2,200 yards of sand and gravel, 12 tons of steel for reinforcing, 160,000 feet of lumber, 6,000 bolts, about 50 kegs of nails, 100 rolls of wax and tar papers, 68 window and eight door frames, heavy hinges for all pen gates, and rock wool insulation.

The building is well insulated, with rock wool, wax and tar paper, boarded inside and out with shiplap. It is covered with grey stoneboard, three-quarters of an inch thick. Trimming the windows and doors in red makes it a very attractive building. Contractor Ed Klassen, with 18 men, completed the house with 60 pens ready for use, in seven weeks.

Interest Growing in Sheep

FOR several years past Canada's sheep population has been steadily falling. This has been true in most countries, until the bottom of the production level seems to have been reached. Meanwhile, world prices have been holding very firm, and by the end of November, the Wool Bureau, Toronto, found it necessary to state that "buying wool at today's prices is marked by considerable caution, owing partly to the problem of financing at the highest prices ever known, and partly because of the risk of losses which are inherent in any high price level."

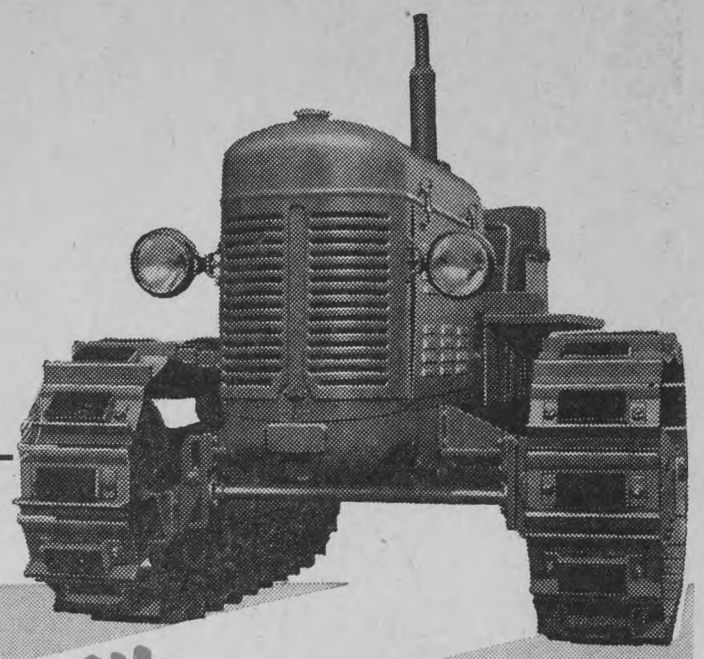
All of this has aroused renewed interest in sheep raising in Canada to a point where the Canadian Co-operative Wool Growers Limited was able to report such evidences of interest as the following:

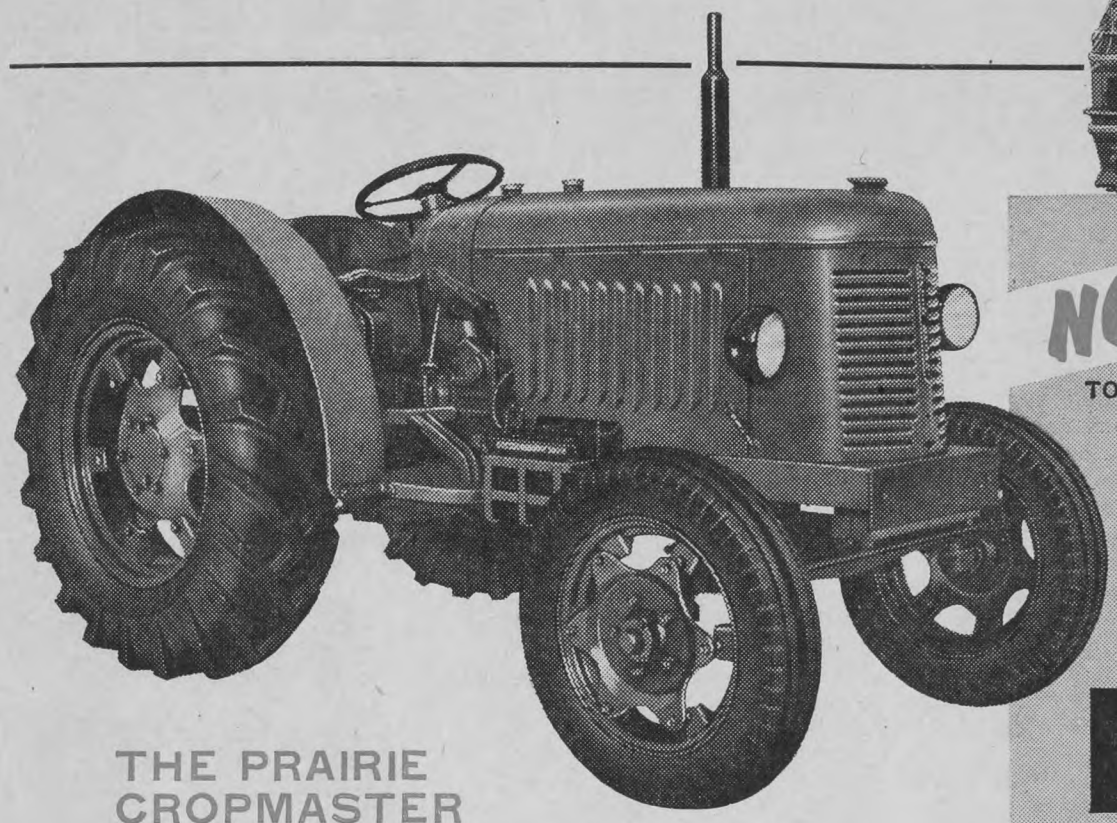
"Representatives of federal and provincial departments of agriculture, sheep breeders associations and others interested in sheep and wool, have been particularly active throughout the most of 1950, in an endeavor to fill orders for prospective sheep men. Early in November most of them admitted that they were pretty well 'stymied' for this season. Not many years ago the western provinces could be counted upon to supply at least a few thousand ewes that were past

THE TRACKMASTER

Here's REAL power combined with economical operating costs. The Trackmaster is available with either gasoline or Super Power Diesel engine . . . develops full 4-plow power with surprisingly low fuel consumption.

New DUOTRACK Differential Steering ensures full powered, smooth, safe turning in small radius . . . eliminates the danger of slewing on sidehills. Six forward and two reverse speeds, Controlled Steering by means of only 2 levers, full visibility and a score of added features including 4-SPEED POWER TAKE OFF, make the Trackmaster the safest, easiest to handle machine now on the market! Write for complete information on it today!





THE PRAIRIE CROPMASTER

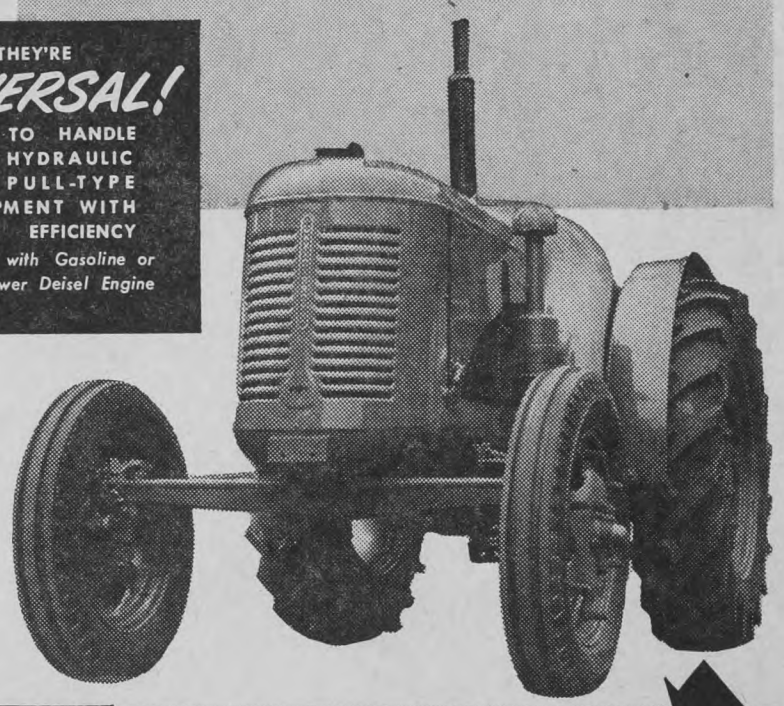
You get 20% more power . . . More grip . . . More WORK per gallon with a Prairie Cropmaster! This new David Brown Tractor includes all the outstanding David Brown features PLUS a new, bigger capacity engine. Big 13x28 rear tires give greater traction and ground clearance. Alternative tricycle wheel equipment is available for conversion for row crop and contour work. Investigate this sensational new David Brown CANADIAN tractor. Its EXTRA POWER with greater fuel economy means more work at less cost to you!

NOW THE WORLD'S FINEST TRACTORS!
. . . DESIGNED AND BUILT FOR CANADA
TO MEET EVERY CANADIAN FARM NEED!

DAVID BROWN

PRESENTS THE 2, 3 AND 4-PLOW TRACTORS THAT SET A NEW HIGH STANDARD OF LOWER COST FARMING.

THEY'RE
UNIVERSAL!
BUILT TO HANDLE BOTH HYDRAULIC AND PULL-TYPE EQUIPMENT WITH EQUAL EFFICIENCY
Available with Gasoline or Super Power Deisel Engine



THE STANDARD CROPMASTER

The Standard Cropmaster has already proven itself on Canadian farms as the long-awaited tractor that gives more economical 2 to 3-plow power! You'll be amazed at the Standard Cropmaster's low gas consumption . . . the power it develops from its high efficiency David Brown Valve-in-Head Gasoline or Diesel Engine. Find out about the Standard Cropmaster's more advanced features, such as Positive Depth and Width Control, Safety Clutch Release and many, many others. A 2-Speed pulley and Power Take Off is built right in—NOT AN EXTRA. You get a COMPLETE tractor when you buy a Standard Cropmaster—or any other David Brown Tractor!

SELECT DEALER FRANCHISES AVAILABLE

WRITE FOR
COMPLETE INFORMATION

WRITE TO US TODAY FOR COMPLETE INFORMATION, ILLUSTRATED LITERATURE AND ADDRESS OF YOUR NEAREST **DAVID BROWN** DISTRIBUTOR.

To
DAVID BROWN TRACTORS LIMITED
Dept. CG1, 8 Wellington Street East, Toronto

Please send me complete information on the above David Brown Models with the name and address of my nearest dealer!

NAME.....

ADDRESS.....

POST OFFICE.....**PROV.**.....

their best for range conditions, but good for one or more years when transferred to the less rigid environment of the East. In 1950 it was difficult to get more than a few hundred, even with some ranchers disposing of large flocks. The common answer was that they would be placed locally. Flock owners on Manitoulin Island in 1949 were inclined to go out of sheep because of the ravages made by wolves. This year they are holding practically everything in order to replenish Highland flocks."

Frozen Flax Experience

I NOTE that your articles on frozen flax are not really conclusive, and it occurred to me that I might throw some light on the subject, since I have had more than 55 years of experience in feeding flax.

I do not understand why Canadians are so afraid of feeding flax. This is regrettable, since it is a home grown product and the best of regulators for all stock, except pigs.

As to the flax straw and frozen flax I can say that I have burned and fed hundreds of tons of flax straw. I have been a licensed steam engineer for 45 years, and I know there is a lot of heat in it for a boiler, and a lot of heat and feed value for horses and cattle.

I have fed plenty of frozen flax without any bad results. Back about 1918 or 1919, I had a mammoth crop of flax that was frozen, so I put up a stack like a young mountain and fed it all with no bad results. Likewise in the thirties I had a 100-acre field of registered Bison flax in which a second growth occurred as a result of late August rains. All of this second growth was frozen, but was fed without any bad results. In many other years I have followed the advice of our district agriculturist, who suggested late seedings if the earlier seedings dried up; and I often had a fair field of feed of frozen flax when other fields were nearly a failure. In view of all this experience I will say I like frozen flax well enough that I wish I had 100 tons stacked up in my yard. My advice is, though, that it should be hand-fed in mangers.

If flax has become black and moldy, it is better to burn it. Standing flax fields are bad, and should be cut and hand-fed. The stock will gorge themselves on it, with the result that some will scour and some abort.

Just once in my 50 years of feeding flax have I had any trouble. A cow choked on a wad of green flax that she tried to swallow before she had chewed it enough. This, however, can happen with pieces of pumpkin, turnip, beet-tops and other feeds and has nothing to do with poison.—Emil Lorentson, Alberta.

Sucker Is Dead

IN The Country Guide, February, 1950, reference was made to a grade Friesian (Holstein) dairy cow in New Zealand which had been milking continuously for 3,764 days and had produced a total of 5,485 pounds of butterfat without freshening.

A recent issue of the New Zealand Dairy Exporter reports that Sucker is dead. She was destroyed by her owner, R. A. Candy, Ngarua, Waikato, on humane grounds because, almost 17 years of age, she was in considerable pain at the end of her 11th successive full year.

Sucker was born August 28, 1933, out of a grade Friesian cow that averaged 276 pounds butterfat in 214 days for five seasons between three and eight years of age, and by a purebred Friesian bull. She was purchased by Mr. Candy as a heifer, and calved first in August 1935, producing a bull calf. She produced 331 pounds butterfat in 309 days under test and calved again at the end of July, 1936, dropping her third bull calf in succession at the end of 1937, and in the three lactations milked 309, 337 and 455 days respectively. She calved for the last time April 7, 1939, producing a heifer calf, since when she had produced 5,794 pounds butterfat in 4,070 days of continuous milking. Her highest production of butterfat per day was in the first year, 1939-40, and amounted to 722 pounds fat in 366 days. The next year her production dropped to 668 pounds fat, since when she had produced over 500 pounds in four different years, and over 400 pounds in 10 of the 11 years.

Her total production was 143,340 pounds of milk, averaging 4.04 per cent test and 526.7 pounds butterfat. Including her first three lactations, she produced a total of 7,011 pounds butterfat.

Her one daughter went through four lactations, none longer than 326 days, and in none producing more than 519 pounds butterfat. She died after calving, at six years. Of her four daughters, one was a dud, the second averaged only 260 pounds fat for five seasons, the third 432 pounds fat over five seasons, and the fourth, 366 pounds fat in four seasons.

An autopsy was performed after Sucker's death and certain organs removed for examination at the Ruakura Animal Research Station by animal physiologists, who hoped to find out something about what could have caused her long lactation period.

Pasture or Vegetation?

ALL pasture is vegetation, but not all vegetation is pasture. This simple distinction between words carries with it much significance for the livestock producer.

Within the range of the four western provinces there are to be found practically all degrees of efficiency in pasture management and in actual production per acre. One must remember, however, that efficiency is a relative term. For example, in the southern part of Alberta, and on some of the range lands where irrigation is not practicable, efficient production of beef, let us say, may still be obtained where 60 acres are required for one mature animal. Across the mountains say, in the Fraser Valley of B.C., the use of more than one acre for a mature animal may represent a lesser degree of efficiency, because in this area not only is the total annual rainfall much higher than the average in Canada, but irrigation is available to supplement rainfall in periods of seasonal dryness.

Efficient pasture production results from the most desirable combination of productive soil, ample water supply (including rainfall) and good management, if in the latter we include the selection of the most suitable pasture mixture, and the maintenance of a good stand. The measurement of efficient pasture production is, however, not easy. Estimates may be made by regularly clipping small fixed areas, say a yard square, and weighing the product. The farmer's objective, how-

ever, is net income, but this is governed partly by prices, and only partly by efficiency of production. For practical purposes, the best practical measurement of efficient pasture production is the number of pounds of beef which can be produced by one acre of pasture.

In the good grasslands of Ontario, the best of which are perhaps equal to the best in North America, dry land farming will probably produce yields of 300 pounds of beef per acre in normal years, under the best management. Under irrigation, in certain parts of North America, this yield has been doubled and even trebled. In the prairie provinces, and excluding irrigated areas, it is doubtful if this yield could be duplicated anywhere, except, perhaps, in the Red River Valley of Manitoba, the Carrot River Valley of Saskatchewan, or the foothills of Alberta. It is probably quite safe to say that average yields, even in these favored areas, nowhere near approach 300 pounds of beef per acre.

In a general sense, a permanent type of agriculture is inevitably accompanied, except in very specialized districts, by livestock production. Not only does soil fertility ultimately require it, but a balanced farm economy demands it. Such a development is nearly always accompanied by longer crop rotations, a more equalized distribution of labor throughout the year, and an evening-out of farm income. As and when that time approaches for an individual farm, a community or a district, efficiency of hay and pasture production will be the key to success.

Alas Our Poor Dollar

THE Canada Department of Agriculture believes there is some point of similarity between the Canadian housewife's shrinking dollar as affected by retail beef costs, and the sorrowful steer so often depicted on billboards and in other advertising, who, looks at a small can of beef extract and exclaims, "Alas my poor brother!" Both the Department and Canadian meat packers believe that the Canadian consumer requires some explanation of the difference between live cattle prices and the high retail prices of choice cuts of beef. Farmers, too, often comment on the great difference between what they receive and what the consumer pays. Here, in brief, is the explanation given by both packer and government department:

Choice 1,000-pound steers have frequently sold at 30 cents per pound in recent months. A packer, therefore, would pay $300 for such a steer. Dressing percentages vary, but the steer might well dress 60 per cent, which means that the packer would recover 600 pounds of beef from the steer in two 300-pound half-carcasses or sides. The carcass would wholesale to the retailer for approximately 50 cents per pound, or for the same total of $300 for the carcass, which the packer paid to the farmer. It is generally agreed that the value of by-products such as hides, fats, hair, animal feeds, fertilizers, normally offset the packers' costs for dressing, handling and selling. This means that the packer should charge the retailer for the beef only what he has paid out in cash to the farmer for the live steer.

But the retailer, although he buys 600 pounds of beef, can sell only 540 pounds in retail cuts. This is because, in the process of cutting up the carcass, 60 pounds would be lost, on the average, in trimming and boning, and the retailer is thus faced with the necessity of securing for 540 pounds of beef as much as he paid for 600 pounds in carcass form, plus rent, labor, depreciation and other appropriate costs.

Obviously, the retailer cannot secure as much money for stew beef as he can for a chuck roast, nor can he get as much for a chuck roast as for a rib roast and so on. Of the 540 pounds, he would secure about 40 pounds of porterhouse steak, for which he might secure 90 cents per pound, where the stew beef might go at a loss for 50 cents per pound, since he paid 50 cents per pound for the carcass, and has all his costs and the shrinkage in addition. It is estimated that from a 1,000-pound steer dressing 60 per cent, the retailer may eventually be able to sell about 40 pounds porterhouse steak, 50 pounds sirloin steak, 80 pounds round steak, 70 pounds rib and rump roasts, 100 pounds chuck roast, 160 pounds hamburger and stewing beef, and 40 pounds fats, making a total of 540 altogether.

From the point of view of the consumer, this is not all of the story. If a sirloin or round roast costs 80 cents per pound ready for the oven, the cost on the plate, because of shrinkage during cooking, is likely to be at least $1.25 per pound. One could go even one step further and suggest that in a first class restaurant or hotel, where a dinner with roast beef as the main course may cost $2.00 or $2.50, the actual cost per pound on the plate of the meat eaten may well be increased from $1.25 to $1.75 or more. By these various steps, therefore, the farmer's 30-cent, or $300 steer may become a luxury which only a very small proportion of our people can afford.

Animal Disease Problems

IT is difficult to overestimate the importance of such animal diseases as mastitis in dairy cattle, bovine tuberculosis, and Brucellosis (Bang's Disease), in both beef and dairy cattle. All three of these diseases are receiving a considerable amount of attention in Canada at present. We know that it is possible to develop tuberculosis-free areas as a result of persistent T.B. testing and culling. We also know that mastitis can be eliminated from dairy herds by the use of strip cups, coupled with sanitation and good management. Similarly, the use of calfhood vaccination at six to eight months of age will, in four to six years, build up a herd resistant to Brucellosis (often called Contagious Abortion). Alberta has had under way for some time, an active campaign for the elimination of this disease through calfhood vaccination. In any of these diseases, it is never too early to start cleaning them up.

Brucellosis is by no means confined to Canada and the United States. Just recently, in Washington, there was held the third Inter-American Congress on Brucellosis. Nearly 200 delegates from 22 countries and possessions were in attendance. The fact that delegates from so many countries found it necessary to meet for the consideration of problems of international importance in the control of a single disease, is an indication of its importance to the health and economies of these countries.

FIELD

During the postwar years much new land has been broken in the four western provinces, due to increased mechanization, good crop years and favorable prices.

Liquid Fertilizer

THE Advisory Fertilizer Council of Saskatchewan, consisting of representatives from the Soils Department, University of Saskatchewan, the Dominion experimental stations, and the Provincial Department of Agriculture, does not recommend the use of liquid fertilizer. "In Saskatchewan," says the Department, "fertilizer experiments usually show that yield increases are, up to a point, related to the amount of phosphorus supply . . . Dry fertilizer provides about 80 times more phosphorus than the liquid . . . The phosphate in dry fertilizer costs about 10 cents per pound whereas the phosphate in liquid fertilizer costs several dollars. This simply brings out the fact that shipping water containing small amounts of plant nutrients is an expensive business."

The Manitoba Department of Agriculture says that, based on experiments and observations extending over a number of years, the Manitoba Fertilizer Board finds it cannot recommend the application of commercial liquid fertilizer (5-10-5) to grain. When applied as advocated by the manufacturer, the liquid fertilizer supplies only approximately two ounces of phosphate and one ounce of nitrogen per acre—a negligible quantity compared with the amount of phosphate and nitrogen required to produce an average crop of wheat and maintain the productivity of the soil.

The Provincial Advisory Fertilizer Committee in Alberta reports that the results of tests conducted under supervision of the Committee "show no significant yield increases from the use of . . . (liquid) . . . fertilizer." The average of 11 tests on wheat, barley and oats on 11 different farms, where unfertilized grain was compared with fertilized plots using liquid fertilizer, and with the familiar 11-48-0 granular fertilizer, showed an average yield of 26.1 bushels per acre on the check plots, and an average increase of 7.1 bushels per acre from the 11-48-0 fertilizer, as compared with .06 bushel increase with the liquid fertilizer. In no single instance did the liquid fertilizer produce a significant increase, while in nine of the 11 tests the increases for the granular fertilizer were significant.

Sunflower Disease

DURING the first nine months of 1950, Canada imported 11 million pounds of sunflower seed oil from South America. In Canada, sunflowers are chiefly grown in southern Manitoba. Due to a late spring and flood conditions in the Red River Valley in 1950, the Manitoba acreage was only 23,000 as compared with 60,000 acres in 1949.

Dr. J. H. Craigie, Chief, Division of Botany and Plant Pathology, Ottawa, recently warned against the importation of sunflower seeds which might be brought in for breeding purposes, from South America. Such seed may carry and introduce into this country a destructive virus disease of sunflowers which is reported to have caused heavy losses in some South American countries. The virus is spread by common insects, and has a wide range of host plants on which it works. Dr. Craigie urges that no sunflower seed be used for planting in the field before it is tested at Ottawa. The disease is transmitted through the seed, and if a sample is grown in the greenhouses at Ottawa, the disease can be detected in advance of the planting season in the field.

Grass the Waterways

THERE must be thousands of waterways in cultivated fields, either worn as such by erosion, or not yet badly gullied or channeled, which can be preserved from heavy soil loss by grassing.

If channels have been cut already by run-off during the spring thaw, or by heavy rainfall during the summer months, they can usually be filled in and straightened out by the use of a plow, a one-way and a small grader, according to the Experimental Station at Lethbridge. It is important that the bed of the waterway be left wide and flat with gentle sloping sides. The heavier the flow of water, the greater the desirable width.

Most important is to prevent the damage from occurring again. This means, according to Lethbridge authorities, well-rooted perennial plant growth so as to form a protective mat over the water course. In southern Alberta, at the Nobleford and Pincher Creek substations, brome grass has given good protection. In the drier areas crested wheat grass is recommended. Seeding should be across the waterway so the drill runs will go at right angles to the flow of water. To give protection to the young grass plants until they are well established, wheat or oats along with the grass is advised.

A little time and effort spent in grassing a runway at the right time,

cannot be anything else but a good investment, and the grass can also be used to obtain a crop of fodder or grass seed.

More Flax

THE provincial departments of agriculture in Alberta and in Manitoba have suggested the advisability of increasing flax acreage this year. Alberta notes that at the recent Federal-Provincial Agricultural Conference it was predicted that drying oils may have to be imported into Canada this year unless farmers increase flax acreage. Indeed, P. H. Ford, Manitoba Provincial Agronomist, reports that some flax has already been imported by the flax crushing industry, from the United States.

Stocks of Canadian flax seed by December had been reduced by more than six million bushels during the previous 12 months, and the 1950 Canadian crop was estimated at not more than 4.5 million bushels. Growers who intend using their own seed should keep a careful eye on the moisture content in any late-threshed flax. The germination of such seed may be affected.

Tartary Buckwheat

THE Manitoba Weeds Commission reports that Tartary buckwheat made its first appearance in Manitoba last year. In portions of central and northern Alberta, this weed has become a serious problem during the past ten years.

It is an annual and grows from two to three feet in height. It has roughly triangular leaves from one to four inches long, which may be as broad as long. Flowers are small, white and borne in bunches on the flowering stems, which arise from the junction of the leaf stocks and stems. Seeds are about the size of wheat kernels.

Farmers are urged not to plant any seed containing this weed, and to pull out any occasional plants which may be seen, as soon as found. Where buckwheat is grown as a crop, the seed of tartary buckwheat may be difficult to distinguish. It is better to submit the sample of buckwheat grain to a Plant Products Laboratory, for a purity test.

Grasshoppers Again

ENTOMOLOGISTS who have made egg-laying surveys to indicate probable grasshopper outbreaks in 1951, have now forecast several severe outbreaks in each of the provinces of Saskatchewan and Alberta, as well as a number of moderate outbreaks over somewhat wider areas. Manitoba farmers will also suffer in 1951, unless care is taken to fight any likely outbreak at its beginning.

Grasshopper forecast maps should be consulted in the offices of municipalities and agricultural representatives. These will show the per cent of infestation expected and enable individual farmers to make plans accordingly. The Saskatchewan forecast indicates that chemical control by sprays, dusts or baits will be required over most of the forecast area, because of the fact that roadside egg infestations occur so widely. This is especially true of the west-central and central parts of the province.

It is recommended that the threat of stubble grasshoppers should be reduced by getting at summerfallow tillage operations early, before the

stubble hoppers hatch. Crops sown on stubble fields in areas forecast for severe or moderate infestations in the central and southern parts of Saskatchewan are likely to suffer serious damage unless strenuous efforts are made to salvage them. Saskatchewan authorities suggest that some fields may be better summerfallowed than cropped this year.

Experience last year proved conclusively that control measures pay well. This was proved in North Dakota as well as in the Canadian prairie provinces. Nearly 600 000 North Dakota acres of crop land were sprayed, at a cost of about $1,000,000 in 1950. Crop losses from grasshoppers were estimated at $10,000,000, but the estimated value of crops saved by spraying was $16,000,000. It is interesting to note that in North Dakota the grasshopper control program last year was entirely an individual farmer proposition.

Shallow Cultivation

THERE is a growing tendency toward shallower cultivation, although a number of farmers still believe in digging up the soil to a considerable depth, making use of the power which is available from a tractor engine. Two agricultural engineers from the North Dakota Agricultural Extension Service, Fargo, checked summerfallow tillage practices on 36 North Dakota farms recently. Their conclusion is "the shallower the cultivation, the more quickly the soil will dry out and the more complete will be the kill of weeds; the deeper the cultivation, the greater the chances are for weeds to re-root and continue to grow."

Set the implements you use for summerfallow tillage just as shallow as you can and still get them to work properly. The same observers advise killing weeds while they are small, or before they are through the surface of the soil. "Do not delay the next cultivation," they say, "to the point where weed growth is already using too much of the soil moisture so necessary for continued germination of the weed seeds."

Weather Is Unpredictable

METEOROLOGISTS, in recent years, have learned much more about weather than they formerly knew. Moreover, they have organized existing weather information in such a way as to be of assistance to farmers in certain areas where specialized crops are grown. Weather forecasters have achieved an accuracy undreamed of a generation ago.

The wheat grower, and the grain producer generally, is in a somewhat different situation. He is primarily concerned with the total amount of rain which will fall in the five months after seeding, as well as with the amount of moisture in the soil at the time of seeding. More particularly in some seasons than in others, the distribution of this rainfall is of vital importance. Two years ago Saskatchewan had what was described as a "miracle" crop. This did not mean a bumper crop, but one which was so much better than had been expected, because of rain which came at exactly the same time, and turned what might well have been a crop failure into a reasonably satisfactory yield.

The Lethbridge Station offers another illustration, from the experience of 1950, of the manner in which nature flirts outrageously with the hopes and aspirations of the farmer. Last year a field which had been cropped continuously for 39 years produced 10.6 bushels per acre of wheat, as compared with an average yield of 12 bushels. This was despite an April-July rainfall of only 5.01 inches where the long time average was 7.98 inches. Normally a rainfall during the growing season of three inches less than normal would be very serious.

As it happened the temperature in June and July, as well as the amount of bright sunshine and the amount of wind, were less than in average years, with the result that there was less moisture lost by evaporation. Nature saved more moisture for the farmer and provided weather which enabled the plants to make the maximum use of the limited amount available.

'Hopper Doom from Sky

AIRPLANE spraying for grasshopper control has not come into general use as yet in Saskatchewan. It has been giving good results, though, where it has been used, according to a survey made by the field crops branch of the Saskatchewan Department of Agriculture.

Most of the airplane spraying last summer was for the control of adult 'hoppers. Crops at that time were well advanced and ground rigs would have done a good deal of damage to the maturing grain.

Eight firms flying a total of 12 planes spread aldrin spray on more than 134,000 acres. No cases of poisoning of humans or animals were reported.

According to one operator, most farmers, skeptical at first about the effectiveness of this means of spraying, had only 60 to 100 acres sprayed at first as a trial. They were so well pleased with results that they called him back to cover the rest of their crop.

Cost to the farmer of spraying was around a dollar an acre—slightly less if large acreages were covered. The farmer supplied the aldrin, which he bought through the municipality. The amount of aldrin used varied from 20 acres per gallon in the early stages of the grasshoppers to 13 acres per gallon for adult stages. The aldrin was mixed with diesel fuel, one gallon of aldrin to ten gallons of fuel where the 20 acres per gallon rate was used.

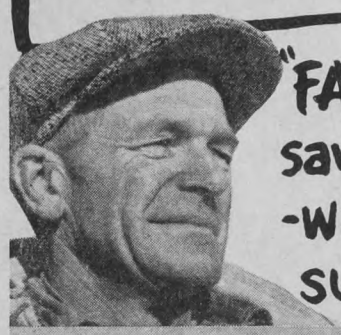
Sizes of planes used for the work ranged from the tiny Cessna 140, which could spray 64 acres to a load, to the big de Haviland Beaver, whose big tanks could carry enough to cover 400 acres. This larger plane was found to permit most economical spraying where large acreages could be covered.

Emergence of Frosted Seed

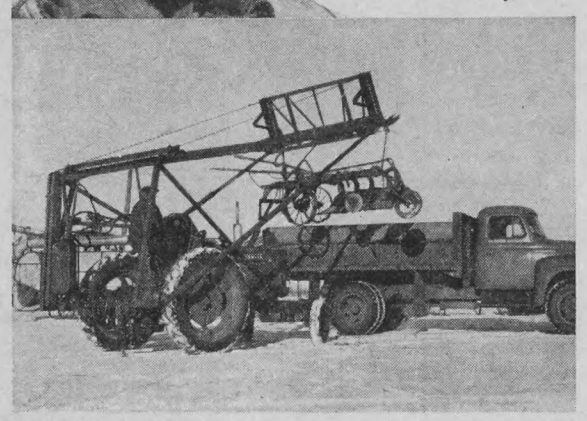
THE value of frozen wheat for seed, says Dr. J. B. Harrington, head of the Field Husbandry Department of the University of Saskatchewan, depends on the degree of frost damage. At Saskatoon, seed frozen fairly severely germinated 89.5 per cent, but only 78.5 per cent of the plants emerged. This seed was sown shallow. When sown deeply, the same seed germinated 89 per cent, with only 35 per cent of the seeds sown, producing plants. Seed sown four inches deep on the average showed germination ten times as much as actual emergence.

Wherever you farm-FARMHAND makes it easier-more profitable!

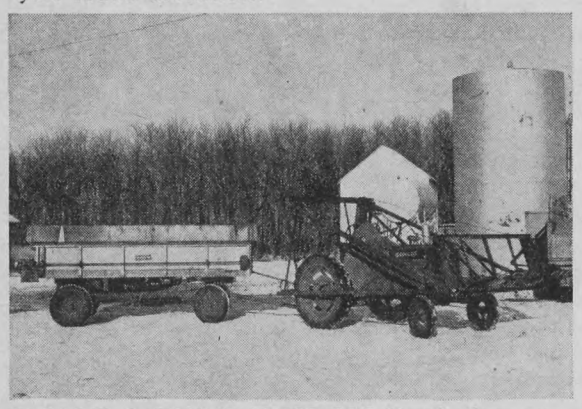
IN MANITOBA



"FARMHAND saves me work -winter and summer!"



JOBS LIKE THIS are just an easy one-man job with our Farmhand Loader. Fast, too! And you should see us stack hay up to 27 feet with our Hay Basket Attachment and Push-Off! Lifts half a ton in 30 seconds! Same Loader with Manure Fork Attachment makes short work of frozen manure piles, come winter. We've yet to see ANY implement that matches our Farmhand Loader for year-round usefulness!



WHAT A TEAM THIS IS! Here's the combination . . . the Farmhand Loader and Power Box . . . that takes ALL our heavy lifting, loading and unloading jobs off our hands. Load up fast with the Loader, unload just as fast with the Power Box. And six-ton loads, too! We've done our share of back-breaking hand labor, in the past. But not any more! Not with THESE work-savers on the farm!

IN SASKATCHEWAN

"I'm dollars ahead with FARMHAND!"

SAVING 2 MEN'S WORK! I'm getting more work done than ever before, with my Farmhand "Special" Loader . . . doing it easier, faster and cutting down on working hours and labor costs. I handle over 50 tough, back-breaking jobs with my Loader, spring, summer, fall and winter. With my complete set of easy-on, easy-off Attachments, there's nothing I can't do faster than a crew of men. And a whole lot cheaper, too!

FASTER THAN 4 SPREADERS! Thanks to my Farmhand Power Box and Spreader Attachment I'm getting manure to the far end of the farm, for the first time. Handles 6 tons in a matter of minutes . . . faster than four old-type spreaders. I'm reaping the benefit every fall . . . in dollars and cents . . . with bigger yields. I figure my Power Box has more than paid for itself!

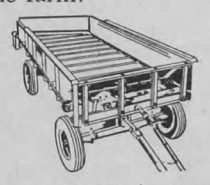
IN ALBERTA

"Faster, easier more profitable -that's FARMHAND!"

WINTER FEEDING'S EASY with my Farmhand Loader. I really enjoy watching it bite into frozen stacks, picking up half a ton of feed every bite . . . with me never leaving my tractor seat! Hauling feed for a barnfull of stock is no trick at all. And that's only ONE way my Loader cuts down work and costs. It's on the go winter and summer . . . doing the heavy lifting and loading jobs I'D have to do without my Farmhand Loader!

ANOTHER ONE-MAN JOB! That's my Farmhand Power Box equipped with the Mixer-Feeder Attachment that mixes, unloads, feeds automatically. No effort, no labor cost. With the same Power Box I can unload silage, corn, sacks, bales or other bagged or bulk materials . . . up to 6 tons in a matter of minutes. How's THAT for saving time and work?

F2-3-51



POWER-BOX

SPECIAL LOADER

HEAVY DUTY LOADER

Farmhand

POWER-BOX AND HYDRAULIC LOADERS

SUPERIOR SEPARATOR CO. OF CANADA LTD., St. Boniface, Manitoba.

SEND NOW FOR COMPLETE FACTS!

To: Superior Separator Co. of Canada Ltd., St. Boniface, Manitoba
Please send fully illustrated and detailed information FREE!

[ ] FARMHAND LOADER
[ ] LOADER ATTACHMENTS
[ ] FARMHAND POWER-BOX
[ ] POWER-BOX ATTACHMENTS

NAME _____

ADDRESS _____

TOWN _____ PROV. _____

Seed-Time Notes

IN 1950 the Lethbridge Experimental Station conducted experiments to compare Durum and bread wheats for production in southern Alberta. Comparable plots of Stewart, Durum and Thatcher bread wheat were grown at each point. In eight of the ten tests, Thatcher yielded more than Stewart, producing an average of 29.2 bushels per acre in the Brown soil zone as compared with 26.7 bushels for Stewart. In the drier Brown soils Thatcher yielded 8.4 bushels per acre and Stewart 6.7 bushels. Stewart was also a week to 10 days later maturing than Thatcher, and several inches taller, as well as more resistant to sawfly damage. In this respect it was more susceptible than Rescue. In the average of ten tests last year, Rescue yielded slightly more per acre than Stewart and was only damaged ten per cent as much from flies.

* * *

IT may be necessary, occasionally, to use seed that is not as good as you would like. A strong stand of plants, according to the Swift Current Experimental Station, is a first step toward a successful crop. To secure the best stand possible from seed of doubtful quality, clean it thoroughly to eliminate the small, light, shrivelled, or broken kernels, which either will not germinate, or will produce only weak seedlings. Sow the doubtful seeds at less depth than usual, and use a little more of it.

* * *

SEED early. This is good practice in any year, especially for wheat, but is more important this year because of the possibility of rust damage. At the Experimental Farm, Indian Head, wheat has been sown on four dates, 10 days apart, in each of the past six years, the first seeding being as early as field work could be done in the spring. Late, normal and early springs have been experienced, but in nearly all cases, wheat sown on the first date slightly outyield the others, a marked drop occurring at the fourth date. The average decrease between the first and fourth dates of seeding, over the six-year period, amounted to six bushels per acre.

* * *

BECAUSE of the widespread frost damage last fall, and the poor harvesting conditions over such a wide area, much grain may be expected to have poor germinating ability. Some special care is necessary with seed oats and barley, according to the Experimental Farm at Brandon, because with these grains the damage is not indicated by the appearance of the grain. It would be a safe rule this spring to sow no grain which has not first been given a reliable germination test. You can obtain an official government seed test for a fee of 75 cents per sample. These tests are made in the laboratories of the Plant Products Division, Federal Department of Agriculture, in Winnipeg, Saskatoon, Calgary and Vancouver. Address Federal Seed Laboratory, 730 Dominion Public Bldg., Winnipeg; 523 Federal Bldg., Saskatoon; Immigration Bldg., Calgary; or Postal Station C, Vancouver. Send one pound of seed for an official germination test, or two pounds for a more complete test, including an analysis for purity. If you have not already secured an official germination test, do it without delay. The laboratories will be extremely busy from now on.

Dry-Land Farmer

Continued from page 10

weed with respect to 2,4-D susceptibility, for which group the recommendations of the third Western Canadian Weed Control Conference called for from four to eight ounces of acid per acre (ester) for cereals, or from five to 10 ounces (amine). These recommendations are for sprays applied after wheat has reached a height of about six inches, and not later than the early shot-blade stage, though spraying may be repeated after the crop has passed through the flowering stage.

I noticed a very heavy trash cover on Mr. Barnes' fallow strips. This was clearly made possible by the use of a blade weeder, on which he relies because it pretty well eliminates drifting. He also showed me a tillage implement cultural test, which has become pretty much standard on most stations in areas where soil drifting is a problem, and where the one-way, duckfoot cultivator and blade weeder are compared for the preservation of trash cover and the killing of weeds. There was no doubt that the one-way killed weeds, but unfortunately, if used more than once, it tended to kill the trash cover as well, and after twice over with the one-way, the soil was pretty well clear of trash.

A narrower, sharper-angled blade is used for the second blading.

THE blade weeder Mr. Barnes uses has three blades, one of which—the straight one—he does not use at all. The other two are V-blades, one of which, used first in the season, is wider and ground harder for use as a cutting blade. Then comes the narrow, sharper-angled blade, the greater angle tending to lift the soil more. The first blading is very shallow and at no time during the season are the blades put down more than four inches below the surface. Deepening is gradual during the season.

The blade weeder, incidentally, seems to be a temperamental sort of implement. It refuses to do a good job unless the soil is quite dry. The day I visited Mr. Barnes' farm his son, Campbell, was operating the blade weeder. We followed him from one field to another and, after a round, he reported that the blade was bunching the anchored straw a little too much, and he was advised to wait until the soil had dried out a little more. Up to this time I had been thinking that the soil was in wonderful condition for working. After going over a field with a blade weeder, if a shower comes immediately, weeds may start to grow and need an application of the rod weeder. There is no gainsaying the fact, however, that the blade weeder does a magnificent job when it is used on dry soil for the purpose for which it was designed, namely, to combine a satisfactory weed-kill with the maximum trash cover.

Mr. Barnes grows only wheat, except in the plot trials. He said there was some barley grown in the district, especially of the Olli and Prospect varieties. One or two farmers seemed to do well with it. Very few oats are grown, and almost no forage crops. In the early years he tried growing some corn and got some extremely high growth on low land but having no livestock, he grows none at the present time. There is quite a bit of livestock in the district, but it is pretty well all out of sight on community pastures. In earlier years, the land on the north side of the South Saskatchewan River was farmed, but, Mr. Barnes said, men made a very poor living on it.

JOHN BARNES has good cause to farm his dry land carefully, even if he were not associated with the Lethbridge Experimental Station as the operator of a substation. He showed me pictures of his house and farmstead, before and after the soil drifting, which appears to have been most serious in 1934. The change seems almost unbelievable in 1950. Where there was an attractive garden and a clean farmstead in 1933, there was a solid covering, about two feet deep, of drifted soil in 1934, accompanied by no crop at all. Today the farmstead is seeded down to the Fairway strain of crested wheat grass, and there is little fear of another such inundation of drifted soil.

I asked him how the substation idea appeared to be working out, and whether the successful methods applied there seemed to be copied in the district. "Oh, yes," he said, "the better methods are being copied, even if farmers do not always admit the source of them. There is a good attendance at the annual Field Day and we feel it is worth while." As a matter of fact, the latest ten-year report of the Lethbridge Station for the period 1937-1946 indicates that the average attendance for each Field Day held in 1935-36-37 was 44, 65 and 105 respectively, while from 1938 to 1946 the general average of all Field Days held was 157. This improvement seems to make it look like a worthwhile job.

Don't Clear All the Bush

Speaking as one farmer to another, Alan R. Moore believes in saving some native bush to protect his fields

WE live in a district in northwestern Alberta that is, more or less, still in its pioneering stage. About us there is a lot of unsettled land where deer, coyotes and the odd bear hide out in natural surroundings.

The farms that are established as going concerns have practically all still a certain amount of bush or other undeveloped land. I would imagine that anyone flying over these parts must see considerably more bush than farmland. During these last few years of apparent farming prosperity, I would estimate that the arable acreage has increased two or possibly threefold. The introduction of big power brushcutters and pilers are mainly responsible for this increase.

There is one great improvement showing since the coming of the power clearing besides the speed and ease. This is the way in which fields have been squared out to nicer shapes and sizes. In the days of hand clearing, we used to cut around patches of big trees and heavy willow draws. This left irregular shaped fields which were awkward to work and retarded the farm work immensely.

All of this leads up to the point at issue. To see the farms cleared up in this way brings home to me the fact that the wide open prairie is coming steadily nearer, the wide open prairie with its blizzards and snowdrifts; with its dust storms and its soil erosion; with its drought and hailstorms. On top of all this comes the insect plagues and plant diseases.

Some people give up and move on. Others sit tight and try to fight it out. Still others alter their system of farming in an attempt to cope with the opposing elements. Out here where the trees and brush occupy so much of our land, we are rarely if ever bothered with any of the above difficulties. This leaves quite clear our "must" of life. We must leave a certain amount of trees and brush.

Before long we must decide how much constitutes an adequate quantity. First we must take into consideration that there will be a certain number of farmers who will not willingly comply with the plan. In some countries, I believe, the maintaining of a certain number of trees is compulsory. If this were the case, a minimum number or amount could be definitely established. As it is here we must decide rather how much land we can spare and in what arrangement.

I HAVE a plan arranged for my farm which, when the clearing is complete, should subtract very few acres from my potential crop yet give a maximum of protection. I maintain that though fields are comparatively small, providing they are rectangular and a good length, they are just as easily and cheaply worked as if the whole farm was in one field.

First, I believe that about a rod of bush or trees all the way around a farm is not wasted land. Besides providing shelter, it is an aid toward keeping weeds off the land from neighboring farms and also discourages wandering livestock from bothering the fences. In time, a good row of brush will often thicken up to such an extent that it will make fencing unnecessary.

In the second place, I intend to maintain a few acres of permanent bushland. This will be located in one corner so as to not interfere with the farming plan and still be handy enough to use as pastureland. I think that such a woodlot is very important to the economy of the farm. So often we need a few poles for something or a pair of skids on which to build a portable granary or other building. We have to have a little firewood as a general rule. Ten acres of woodlot per farm should be enough if properly used.

Thirdly, I would like to refer to the shelterbelt for the protection of the farm buildings. This can be left to shelter two, three or all four sides of the farmyard. Personally, I prefer to leave only the south side open.

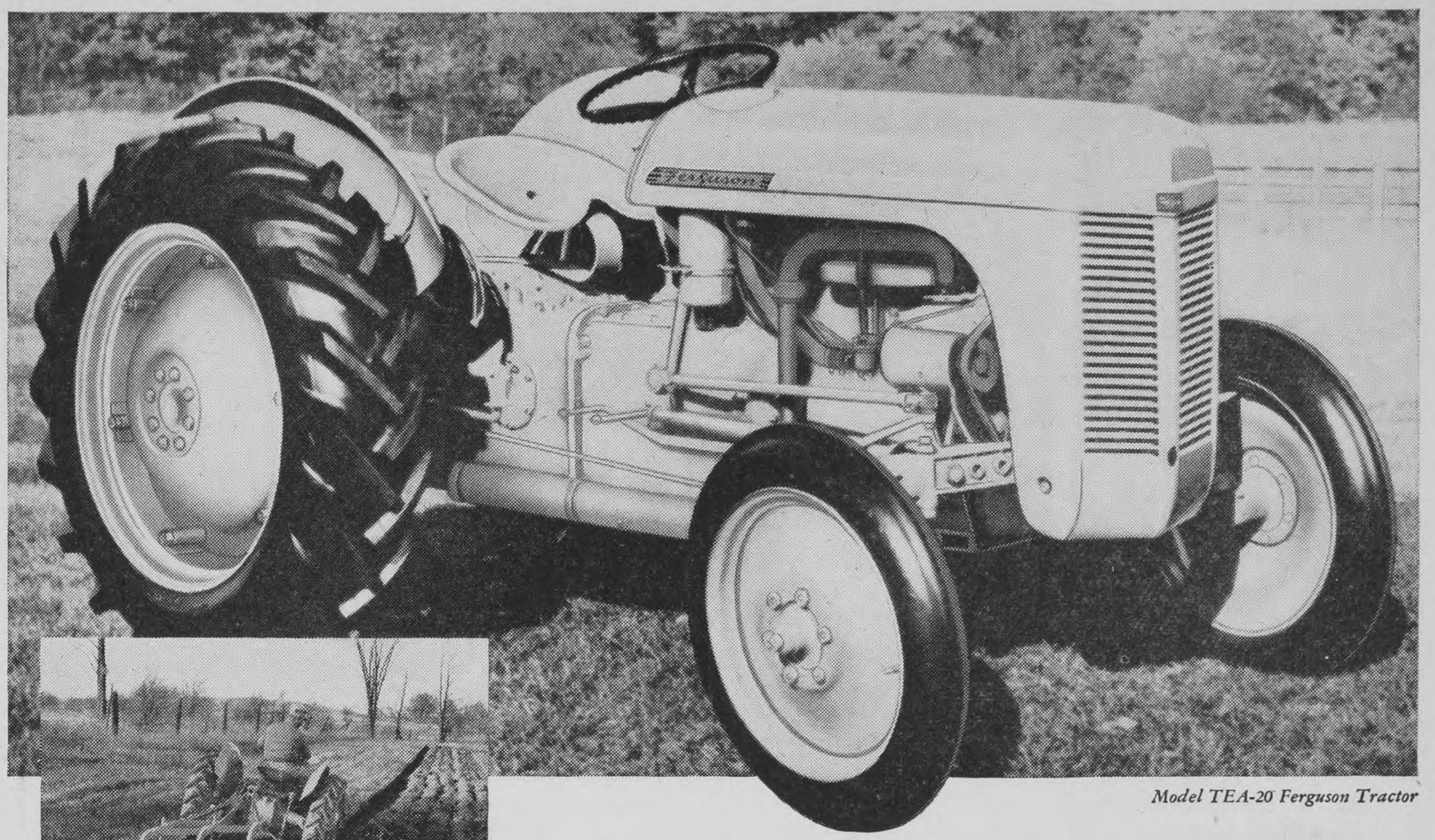
THE actual acreage of this shelterbelt may be hard to estimate and would no doubt vary considerably under different farmyard plans. I think that a good farmyard, including garden and other working space, should occupy about four acres, a quarter of which could be left wooded. This is just my own opinion of course and will no doubt meet with some disagreement.

Last comes the question of dividing up the rest of the farm to the best advantage of farming convenience and shelter. In this regard I will state only my own plan again. Others might find an altogether different plan necessary to suit their system of farming. I am mixed farming which necessitates a good deal of pasture land and also a variety of crops. All this on one quarter section cuts the farm up more and requires considerable cross-fencing. I plan to run a regular rotation of pasture, tame hay and two crops of grain; the second grain crop being a nurse-crop for the subsequent pasture and hay crops.

I hope to have four fields aggregating 105 acres and leave another field of about 30 acres for permanent tame pasture. I plan to have the tame pasture running the length of the farm with the farmland fields lying at right-angles to it so that I can open gates and connect the pasture directly with any one field. In this way, I will have my four farming fields all lying side by side and each fenced separately. These fences will all be supported by a strip of bush or trees which will break the wind, hold snow moisture and check soil movement.

Now the question arises of whether or not so much bush is really an advantage. My figures work out to approximately 20 acres of permanent bush per farm. It seems to me that if this much land taken from farming on every quarter section will protect us permanently from the evils of farming as aforementioned, the land could be put to no more profitable use.

So neighbors, while we are clearing up our farms and making our great plans for the future, let us stop and look into the plight of our neighboring prairie farmers and remember that it is much cheaper and more satisfactory to save our trees while we have them than to replant in years to come after the damage is done.

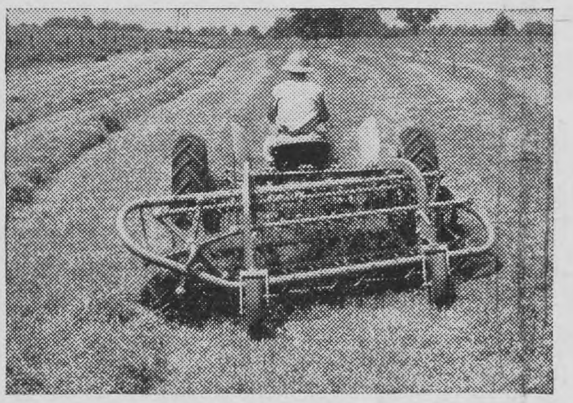


Model TEA-20 Ferguson Tractor

Different... from all the others!

THE FERGUSON SYSTEM GIVES YOU SO MUCH!

Three-point *Converging* Implement Linkage, Finger Tip and Automatic Implement Control, Automatic Steering Alignment and Automatic Draft Control are just a few of the advantages this revolutionary system gives you.



OVER 60 "ENGINEERED" FERGUSON IMPLEMENTS

There are now over 60 Ferguson Implements to convert Ferguson Tractor power to useful productive work. The tractor-mounted, finger tip controlled Ferguson Side Delivery Rake *(above)* is an outstanding example of Ferguson advanced engineering.

The basic idea that makes possible such outstanding performance . . . that makes the Ferguson Tractor so different is—*The Ferguson System!*

So basically sound, so engineeringly perfect and so practical is this idea that over a half million tractors with the *one* and *only* Ferguson System have been built.

Farmers who know the *original* Ferguson System *know* it has *never been equaled!* They know, too, that the *complete* Ferguson System can be found *only* in today's Ferguson Tractor! They know from experience that this system is more, far more, than just a hydraulic lift. They'll tell you there's no bothering with *separate* hydraulic attachments or controls . . . that the Ferguson System is built *into* the Ferguson Tractor. They know it gives their Ferguson exclusive advantages *no other tractor can offer!*

You owe it to yourself to get the truth about the *complete* Ferguson System. You owe it to your pocketbook to investigate Ferguson quality, economy and power.

You'll discover all these things and many more with a "Showdown Demonstration" *right on your own farm.* Ask your friendly Ferguson Dealer for information or fill in and mail coupon below.

Send for these Free Booklets

☐ New Tractor Folder and New Full-line Implement Folder.

☐ Information on How I Can Get a "Showdown Demonstration."

☐ Check here if an Agricultural Student.

Check box or boxes above for booklets and information you want. Write your name, address, route number, town, and province in the margin, paste on postcard or mail in an envelope to

HARRY FERGUSON, INC. • DEPT. CG-31
3639 East Milwaukee, Detroit 11, Michigan

ASK FOR A **SHOWDOWN** DEMONSTRATION OF THE "WORLD'S MOST COPIED TRACTOR"

See Your Friendly Ferguson Dealer Next Time You're in Town

FERGUSON TRACTOR

AND FERGUSON SYSTEM IMPLEMENTS

IT'S THE *all-gray* TRACTOR WITH THE CHEVRON NAME PLATE

Pioneer Doctor

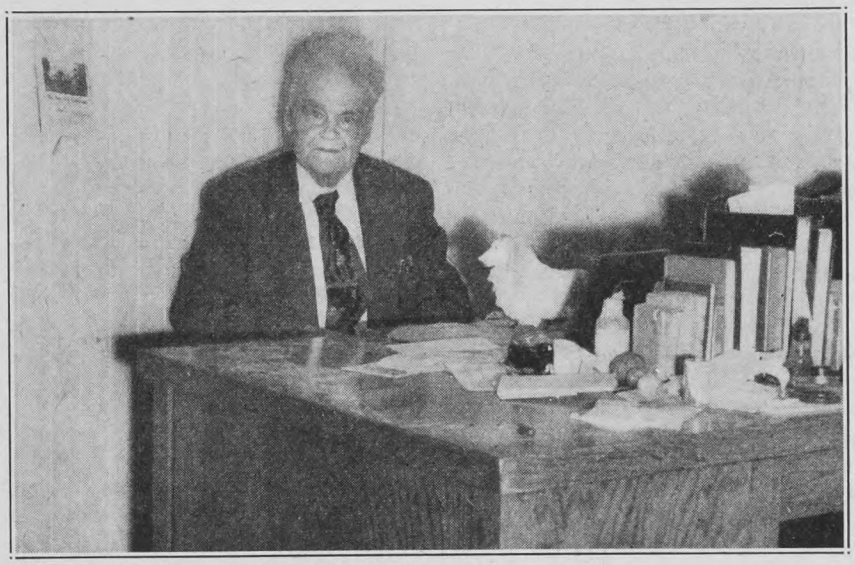
He saw his chosen field of endeavor grow into a modern community and after 55 years in practice elects to stay in harness

by GWAIN HAMILTON

THE time was 1896 and the place was a desolate stretch of alternating bush and prairie north of the pioneer town of Minnedosa. The two horses were almost spent drawing the cutter through the deep banks of snow that were being piled over the trail by the savage fury of the 40-mile-an-hour gale. It was 20 below and there were indications that it would be colder when the fury of the wind had subsided. Through the haze of blowing snow, a feeble yellow light flickered.

In the farmyard willing hands took over the care of the team while a shaggy figure in fur coat and scarf stretched stiff muscles and, clutching a familiar leather bag, made his way to where an open door shed yellow light out into the night. Inside, anxious hands helped divest him of his heavy outer garments.

Fifteen minutes later clean sheets were laid across the dining room table, transforming it into an emergency operating table. Two lights, freshly trimmed and cleaned were placed so that they shed a shadowless light. Fires were stoked anew under pans of boiling water. The yellow lamplight reflected on the orderly array of shining surgical instruments. The doctor scrubbed beside a washstand while an anxious pioneer mother soothed her half-grown son who was stretched on the make-shift operating table.



Dr. J. N. Andrew of Minnedosa

This was not an isolated incident in the case-book of a pioneer doctor but an experience with variations that was enacted many times, with Dr. J. N. Andrew of Minnedosa in the leading role.

This year Dr. Andrew celebrates his 56th year in continuous practice in this area. He has seen this district transformed from a veritable wilderness into a settled and orderly community. When he first came to Minnedosa there was no hospital. Last spring he was given the task of officially opening Minnedosa's new $200,000 district hospital.

Dr. Jerrod Norman Andrew arrived in Minnedosa on St. Patrick's Day, 1895, following his graduation from the Manitoba medical school and a year's internship in the Winnipeg General Hospital. He is believed to be the only member of the graduating class of '94 still actively practicing in the province.

As an interne he met a young English nurse, Emily Bennet. In 1906 the young doctor and nurse decided to combine their medical training and were married. For many years after that, the familiar figure of the doctor's wife was seen accompanying him on his calls, behind the spirited horses which were his pride and joy.

Dr. Andrew has gone through 40 horses and 11 cars. He has logged almost half a million miles attending his patients during his more than half a century of service. He was one of the first in the district to own a car. His first, which he bought in 1912, was a temperamental hand-cranked E.M.F., a forerunner of the present-day Studebaker.

At one time he could call almost every person in the district by his or her first name. He has ministered to the physical infirmities of three and four generations of one family, and he has listened to the troubles of half the people of the community.

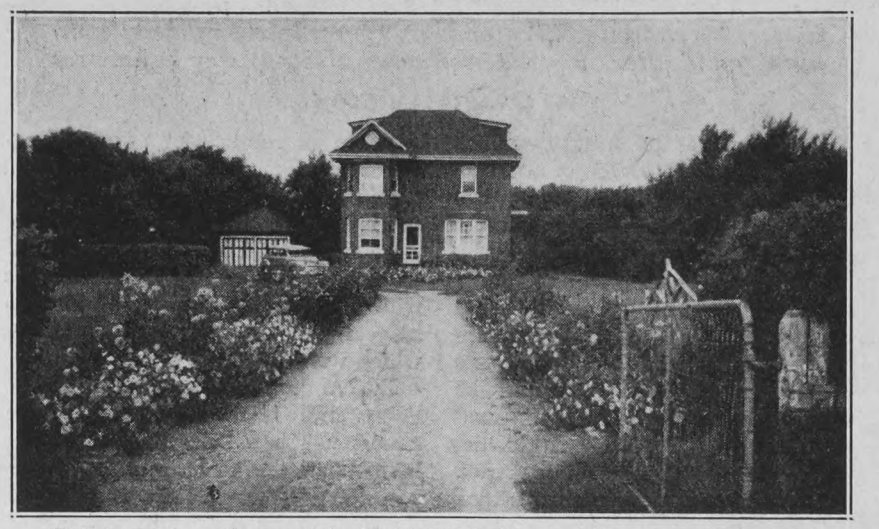
He has been a coroner of the province of Manitoba for over 50 years. He became C.P.R. doctor at Minnedosa when the C.P.R. took over the rail line of the old Manitoba and Northwestern Railroad, early in the century. And although he is well past the retirement age, he has stayed on at the request of the C.P.R. chief medical officer.

Dr. Andrew has no idea of how many babies he has ushered into the world but he estimates the number to be in excess of 1,000. However, he has no record of them as all his records dating back to those pioneer days were destroyed in a fire about 12 years ago.

The doctor came to Minnedosa alone. He was married there and raised his family in that town. His wife has been dead for a number of years and his family are scattered from New York to Victoria. A full cycle has passed and once again 82-year-old Dr. Andrew is alone.

He had a chance to give up his practice and stay with members of his family but he refused because he feels he can still be of service to the community. In Minnedosa he is still the beloved "Doc Andrew." Somewhere else he would be just plain Dr. J. N. Andrew, retired.

HORTICULTURE



This is the farm home of Leslie Holditch, Ninga, Man., one of the most attractive in the district.

Prairie Horticulturists Meet

Western Canadian Society of Horticulture members review the 1950 season and discuss many important prairie horticultural problems

THE Western Canadian Society of Horticulture met in Regina last month for the first time since the Society was organized in that city in November, 1943. Members consist principally of horticulturists at the experiment stations, universities and provincial departments of agriculture in the prairie provinces. Others, including some nurserymen and some interested fruit growers, may, and do, join, but the primary purpose of the Society is to permit the specialists in horticulture to meet and exchange information and ideas, and occasionally to join in some recommendation which it is believed will encourage horticultural development in the prairie provinces, or to agree among themselves on certain methods and procedures in the conduct of their own work which will tend to increase efficiency and avoid duplication of effort.

One program recommended at an earlier meeting of the Society, and now getting under way, is a co-operative fruit-breeding project between the experimental station at Morden and the horticulture departments of the universities of Saskatchewan and Alberta. Paralleling this is one involving official trials of vegetable varieties, and here the University of Manitoba is linked with experimental stations in other parts of Canada in a nation-wide varietal merit test.

The Society frequently approaches governments with a recommendation or request for action in a specific direction. Such recommendations, however, must first pass the scrutiny of a special committee set up for this purpose and known as the Research Advisory Committee. This committee is an attempt to make sure that no unwise or unnecessary recommendations go forward to Ottawa, or to provincial governments.

REPORTS from each station represented at Regina permitted a pretty thorough review of the 1950 horticultural season, especially with reference to fruits. The winter of 1949-50, and the growing season which followed brought sharply differing experiences to the orchards at some of the prairie institutions. Professor E. T. Andersen, at the University of Manitoba, for example, was able to report on the effects of the Red River Valley flood on a four-year-old orchard with trees about six feet high. From May 5 until June 5 this orchard was under seven feet of water. From this ordeal the Dolgo, Osman and Bedford crabs survived satisfactorily, all others being killed or making new growth from the base. Dolgo alone, among apples and crabs, surviving to the tips. Sandcherries and sandcherry-plum hybrids survived without any very apparent injury. Black and red currants suffered only slight injury. Gooseberries killed back to nearly ground level, but made good recovery. Tree plums suffered less than apples, but showed considerable tip killing. Strawberries survived where young plants were well established, but older plants died. Many raspberry canes were killed.

At Edmonton fireblight is becoming increasingly serious and has almost wiped out the apple and crab orchards, the epidemic being particularly severe last summer. At Lacombe, about 80 miles south, where blight struck many ornamental and crab-apples in the town, H. T. Allen of that station reported that the new orchard at the experimental station was untouched. Both the provincial horticultural stations at Brooks, Alberta, and the Experimental Station at Lethbridge reported a disastrous 1949-50 winter. This is chinook country, and the Society agreed that it was time some special research was done on the dormancy of fruit varieties in that area where the danger of broken dormancy is most acute; and also that there should be set up a special committee on research into the whole question of hardiness as it concerns prairie horticulture. Unfortunately, hardiness is not merely a matter of withstanding winter cold. Drought conditions in summer and fall, the drying out of smaller branches and twigs as a result of persistent cold weather during winter, as well, of course, as problems associated with late spring and early fall frosts, and with alternate freezing and thawing in spring, are all involved. Perhaps, as suggested by P. D. Hargrave, Superintendent at Brooks, we need a good hardy understock for prairie trees, which will dwarf them and help them to offset the effect of strong drying winds, as well as to keep more of the tree under the snow in winter.

THE Society has for some years given special attention to nutritional troubles in horticultural plants, and particularly to the yellowing of leaves, called chlorosis. This is a disease caused by a deficiency of some element which prevents the formation of chlorophyll, and causes the leaves to become pale or yellow. The cause is generally found with iron, manganese or zinc. The trouble is serious in the Lethbridge and the Winnipeg areas, and generally in soils where there is a lack of iron in an active form, as often found in soils where lime (calcium carbonate) is very plentiful. Dr. J. L. Doughty, Soil Research Laboratory, Swift Current, reported that where more than 2.5 or 3 per cent of calcium carbonate was present, the soils are potentially dangerous as regards this disease. Conditions favoring it are fine-textured soils with poor aeration and high moisture content. While no permanent cure has been discovered, a useful hint is found in the discovery that peaty soils, characterized by high content of organic matter, do not produce chlorotic plants, even when the calcium carbonate content is high. It is concluded that the only permanent solution depends on the breeding of resistant plants.

Horticultural plants may exhibit other nutritional deficiencies in western Canada. The principal deficiencies the world over are likely to be either of nitrogen, phosphorus, or potash. Minor elements which may, and often do, give trouble are iron, manganese, zinc, and boron. Unfortunately, recognition of the symptoms of deficiency for most of these elements is limited as yet to a few highly trained specialists and plant nutritionists. About the best the grower can do who notices some abnormally colored foliage, or some stunted or unhealthy condition of fruit or shrub, is to consult his nearest experiment station or university, or secure a Canada Department of Agriculture bulletin on the subject, and study it out for himself.

The development of irrigation in western Canada opens up new fields for investigation. Water added to dry land soils will not produce crops in perpetuity. A build up of fertility is essential, but neither can this be done by commercial fertilizers alone. It appears that a combination of commercial fertilizers, plus liberal applications of organic material, either through manure or green manures, will give better results than equal amounts of fertility added in the form of commercial fertilizers alone.

THE specialists in vegetables and those in ornamentals each found plenty of problems to keep them alive to the importance of future achievements. Progress in the development of vegetable varieties has been notable on the prairies, and this was brought out in a panel discussion on vegetable problems led by Charles Walkof, of the Morden Station. Advance has perhaps been most notable with three crops, sweet corn, muskmelons and tomatoes. A sizable canning industry has already developed in southern Alberta; and it was suggested, indeed, that it may well be that southern Manitoba will provide the best opportunity of anywhere on the prairies for a tomato canning industry. The future rests pretty much in the ability of the vegetable breeder to produce varieties of quality, yield, and adaptability.

At the present time a great deal of work is under way for the improvement of the potato, both in eastern and western regions. Most existing varieties have been developed for adaptation to eastern conditions, and so far, prairie Canada has not yet achieved well-adapted, high-yielding potato varieties. In addition to disease resistance, which is a continuing problem everywhere, prairie varieties must also be drought-resistant, and early maturing. The potato, as pointed out by Professor E. T. Andersen, is probably subject to more serious diseases than any other widely grown crop plant. Chief among these, perhaps, are late blight, certain viruses about which comparatively little is known as yet, and scab, which is becoming an increasing problem in the prairie region.

Dr. R. J. Hilton, University of Alberta, reported that housewives consider mealiness the most desired characteristic of the table potato. Mealiness is generally believed to be associated with starch content, and this, in turn, with the dry-matter content of the tuber. Due to this relationship, there is a possibility that suitable specific gravity tests may eventually be able to provide satisfactory measurements of both starch content and quality. Donald Russell, Provincial Horticultural Station, Brooks, Alta., reported that fertilizer elements alter the specific gravity of potatoes and thus their quality—phosphate fertilizers causing significant increases, potash fertilizers decreases, and nitrogen producing comparatively little effect. Flavor is also affected by minor elements such as boron, copper, manganese, iron and magnesium. Irrigation tends to produce potatoes of lower specific gravity, and also tubers carrying more knobs.

In ornamentals we come back to the old problem of combining hardiness with beauty of bloom and foliage. The Society's committee on ornamentals recommended much more attention to the development of good climbers; and also selected a small group of plant genera (groups of related species) for special attention.

THE president, John Walker, Superintendent of the Forest Nursery Station, Indian Head, Saskatchewan, in his presidential address, urged attention to the growing importance of commercial vegetable production near large cities, and the production of fruit and vegetables for commercial canning and freezing. Members of the society must serve the interests of both urban and rural residents, keeping in mind that two important conditions govern prairie horticulture, namely, a long, dormant season, and a short, growing season. So far, however, prairie horticulture is concerned mainly with the problems of home gardening. "With the aid of horticulture, the attractions of the city may actually be enjoyed by farm residents and the inhabitants of rural areas," said Mr. Walker, "in conjunction with the freedom, privacy and economy of rural life. We should retain our enthusiasm," he said, "about the significant contribution which horticulture can make to the welfare of a democratic people."

Dr. Hilton was elected president of the society for 1951, and it was decided that the next annual meeting would be held in Lethbridge, where the vice-president, I. L. Nonnecke, is horticulturist at the experimental station.

New Pig

Continued from page 13

slaughtered, measured, and scored; and a boar and three gilts retained for selection, pending the results of the feed and carcass tests."

Three main projects are involved. One of these, designed to develop and test three prepotent, inbred lines of Yorkshires, was begun on several experimental farms and stations in 1942. Out of 24 strains which were put under test at various institutions, 15 were eventually discarded. Because inbreeding reduces the number of immediate ancestors (by mating brother and sister, sire and daughter, son and mother, and other closely related individuals), all the good and bad genetic (inheritable) influences common to the reduced number of ancestors are concentrated in the individual. Undesirable, as well as desirable characteristics come to light, which would be kept hidden if outcrosses with unrelated or distantly related animals were made. Thus, abnormal pigs, ruptures, ridglings, blind pigs, and other undesirable qualities, were responsible for the unsatisfactory nature of most of the discards.

Of the remaining strains, the Brandon strain, started in 1943, carries the greatest concentration of blood of any strain of Yorkshires in Canada. It is free from abnormalities and will produce high-quality carcasses. This strain is now being tested on commercial herds in Ontario, Manitoba and Alberta. A Lacombe inbred strain was also started in 1948, and this, in combination with a Lennoxville inbred strain shows promise. Each of these strains has demonstrated its ability to produce carcasses high in quality, along with freedom from abnormalities. They will be tested for prepotency and for their combining ability.

THE second principal project is the program of selection on the basis of performance. It is in reality an advanced registry rating project from which two results are hoped for. One of these aims is to prove the soundness of selecting breeding animals based on the performance of litter mates; and the other is to investigate and sort out the inheritability of individual bacon characteristics.

Different countries have used differing systems of recording swine performance. In Denmark, recording has been going on continuously for half a century. Some schemes were started in England but discontinued. In Canada, Advanced Registry for purebred swine was started in 1929. Advanced Registry is really a measure of a mating between two individual animals, but too little use has been made of the records built up and of the testing so far done. Simply stated, the project at Lacombe involves the use, in a special breeding program, of none except pigs whose litter mates have been A.R. tested.

This project has been under way for four years, on four different stations, two in the East and two in the West. In 1946, for example, 10 litters were tested at Lacombe. Their carcass scores ranged from 80 to 62. Two gilts were kept from each of the top two litters, and two from each of the two lowest litters. The same plan was followed at the Scott Experimental Station in Saskatchewan, as well as in the East. The high and low test gilts were all bred to a high-test boar one year, and to a low-test boar the year following, so that pigs from high-high, high-low, low-high and low-low matings resulted. For subsequent breeding, stock was retained only from the high-high, and the low-low matings. In each case, two barrows and two gilts from each litter were selected for testing; and in addition, a boar and three gilts were retained for breeding stock, at least until the performance of the test pigs was known. This is also an outcrossing experiment and, although the project is not yet completed, it is already quite apparent that selection on the basis of performance is sound. In 1949 for example, the pigs from a low boar mated to high gilts graded 50 per cent A and 50 per cent B, whereas the low boar mated to low gilts, produced no A's, 69 per cent B's, 26 per cent C's and five per cent D's, despite the fact that pigs from the first mating of this kind in 1946 were scarcely distinguishable from each other.

THE third main project at Lacombe is an attempt to produce a new, white, bacon breed that will be completely different in its breeding, from the Yorkshire. The reason for this attempt is that while the Yorkshire is the principal breed in Canada, many farmers feel that they can get faster gain and more economical results by cross-breeding. Unfortunately, there are very few breeds of bacon background, and the progeny is often more or less nondescript in bacon quality. It is believed that if a white, bacon breed, genetically different from the Yorkshire, can be evolved, it will be advantageous to cross this breed with the Yorkshire to obtain hybrid vigor plus quality carcasses. In any event, it will take a few years to discover whether this objective can, or cannot, be attained.

Two different foundations were used. Since the ultimate new breed must be white, it was necessary that one of the cross-bred foundation parents be white, so that selections may be made later for this color. Yorkshire could not be used, or some of the hybrid vigor anticipated by crossing the new breed with the Yorkshire would be lost. There were not many white breeds of bacon characteristics available, but eventually a combination of Danish Landrace and Chester White, developed at the U.S.D.A. Animal Research Station, Beltsville, Maryland, was selected.

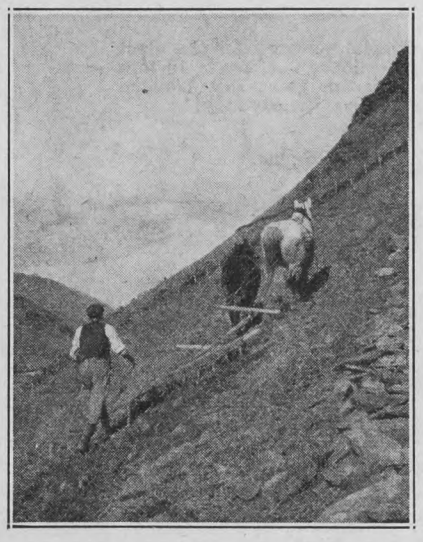
There were, of course, a number of colored breeds available for the other half of the foundation cross. Most of them, such as the Duroc-Jersey, had too great a predisposition to fat, for a bacon foundation. The Tamworth was considered to be light in the ham, a deficiency for which the Yorkshire is sometimes criticized. Consequently, a black and white foundation was made up of the Landrace-Chester pig crossed with the Berkshire; and a red-and-white foundation was secured by crossing the Landrace-Chester pig with the red Minnesota No. 1.

If any reader would like to build a new breed of pigs here is the way it is being proceeded with at Lacombe, and told to me by Mr. Stothart:

"The first pigs used in this project were Canadian Berkshire gilts and Landrace - Chester boars. The latter were developed in the United States by crossing Danish Landrace on Chester Whites and inbreeding. They are white in color, hence the term 'black-and-white' foundation. The plan being followed here is to backcross the females of the original cross, to Landrace-Chester boars, and then close the herd, and breed and select from the pigs resulting from this backcross. It is intended to select for a white pig, and as the white in this cross is dominant, this should be simplified by the double shot of white incorporated by the backcross to the Landrace-Chester. The Landrace-Chester boars used in this project ranged from 53 per cent Landrace—47 per cent Chester, to 70 per cent Landrace—30 per cent Chester, and consequently the breed background of the second generation foundations approximated 25 per cent Berkshire—45 per cent Landrace and 30 per cent Chester.

"Although this project was started in 1948, several generations of testing and selecting will be necessary to determine whether a bacon pig of high carcass quality, combined with economy of production, can be developed. The basis of selection in this, as in the other projects, is litter mate performance; and carcass quality, economy of gain, and freedom from defects are given particular prominence in the selections."

The swine breeding research now progressing at Lacombe is the most extensive conducted at any one research center in Canada. Its intent is to prove breeding methods, systems and strains, and to pass on to breeders the methods and systems best designed to improve swine breeding. "No distribution of breeding stock is planned," said Mr. Stothart, "except in the case of really outstanding strains of Yorkshire, and it is not anticipated that this will be possible for several years. While both positive and negative results may be expected, the net effect should be to add materially to our knowledge of breeding bacon hogs."



Marginal Land

The above picture shows the sort of thing that is involved in further increasing Great Britain's crop acreage. This Welsh farmer and his two horses took six weeks to plow this field of about an acre in extent, because it was so hilly the horses could take only a few paces at a time. In the picture the horses are harrowing out bracken roots.

Weatherman's Job

Continued from page 9

W. Gilmour Clark, has written a dramatic account which gives a clue to the present accepted theories about weather changes. Here is his story:

"The cold air that periodically paralyzes Canada during the winter months originates up in the Arctic wastelands. The air sits there for days on end and gets colder and colder. It dries out. Finally, one day, for reasons which are not at all obvious to meteorologists, it begins to spill over the Arctic's rim like quicksilver on a table; it begins to move down from the Northwest Territories and flow at a fairly quick rate—about 20 or 30 miles an hour—down over the prairie provinces.

"The meteorologist is warned of the outbreak when he gets weather reports from the Northwest Territories, from Churchill, Coppermine, Yellowknife and Baker Lake. It is customary for the meteorologist to mark a blue line on his weather map to show the leading edge of this extremely cold air. The blue line when he first draws it on his map, hangs in a long, graceful curve from Hudson Strait, across Hudson Bay, just south of Yellowknife, and trails on up to the Yukon. Hour by hour that blue line progresses southward, south of Edmonton, south of Saskatoon, then south of Calgary and Winnipeg, and the papers begin to carry stories about a cold wave on the prairies. In the West the air is dammed up by the Rocky Mountains; in the East it begins to surge across northwestern Ontario; Port Arthur feels its grip, then Sault Ste. Marie, then Toronto. At the same time the Dakotas and Minnesota are caught in the icy clutch of the cold wave.

"Day by day the blue line lengthens as the cold air pushes south across Chicago, Ottawa and Quebec City; south of St. Louis, New York and Halifax. Finally there comes a day when the blue line lies completely south of the Maritime provinces, hangs down along the Atlantic coast of the United States, cuts across Florida, through Texas, and up along the crest of the Rockies to Whitehorse in the Yukon. All of eastern North America shivers in the paralyzing air. As the cold air pushes south, the warm air which it replaced is forced aloft, storms develop, and blizzards strike.

"In the West, the push of cold air may be so great that it finally spills over the Rockies into the neighboring trench, then over that trench into the next one, and eventually, after Revelstoke, Nelson, Kamloops and Penticton have been covered by the cold air, it pushes its way over succeeding mountain ranges till it reaches the Pacific. Then the map of the meteorologist shows the blue line south of Vancouver. Piercing east winds roar down the Fraser Canyon and roses wither in Victoria."

AS over the Arctic, so over the Gulf of Mexico. Masses of air regularly hover over this tropical sea, picking up warmth and moisture. When the tropical air mass takes off it is generally to the north and east. When it reaches eastern Canada, the life of the country slows down, clothes won't dry, food won't keep, your clothes stick to your back, you can't sleep at night, you have a perpetual grouch, particularly if you are a Westerner habituated to a dry and bracing atmosphere.

There isn't much that can be done about the weather but adequate warning enables all sorts of people to lessen the effects of it.

Perhaps the most obvious benefit is to airmen. At each of Canada's main airports weathermen are stationed who brief every pilot before the latter take off for commercial air journeys. Pilot and meteorologist together discuss in great detail cloud formations, winds, icing hazards, visibility and all the conditions that may affect a flight. Between them they arrange the altitudes at which different portions of the journey are to be flown. If conditions between landing fields come too close to the margin of safety, flights are detained until conditions promise to improve. The traveller stretching his legs on the tarmac in the pale winter sunlight at Calgary may become annoyed at a seeming needless delay. But the weatherman who may be responsible knows what awaits him at Winnipeg.

Shipping along Canada's extensive coast line is hardly less dependent. One example is enough. Loggers on Queen Charlotte Islands make their harvest up into huge rafts which are towed across the 24-hour salt water run to the British Columbia mainland. That journey would be a most hazardous one if a storm were to overtake it. Only when the weatherman gives the green light is it attempted.

Even the railways are provided with special weather service. As the mercury drops, the efficiency of a locomotive drops with it. At 40 below zero a locomotive loses 40 per cent of its efficiency. It is reported that a transcontinental train arriving in Toronto from the West on February 10, the coldest day in the year in the territory through which that train passed, was equipped with two locomotives for half the journey down from Winnipeg. At that it was many hours late. Only by virtue of sufficient warning can a railway company have engines of the right type strategically located at isolated spots at the right time.

Goods in transit are frequently much affected by the vagaries of weather. Bulk cargoes on the Great Lakes, like coal and iron ore, are frequently

exposed to rain and freezing temperatures, which complicate and delay unloading operations. Wind and fog can be frequent causes of delay in the docking of vessels.

MILK is a very perishable commodity. In eastern Canada, where processors have branch factories at urban points, a change in the weather will often switch processing from urban big-scale centers, where manufacture is more economical, to branch plants to minimize the effects of weather changes. A midsummer forecast will determine how much of the raw product will go into ice cream and how much into some other by-product.

Candy and chocolates will not be shipped into areas where the temperature is expected to go over 87 unless continuous refrigeration is available. A steel company, aided by a weather forecast, will process bolts on a day when the humidity is high, but will turn the plant over to the manufacture of wire on a dry day. Power and light companies operating near their peak load, and forced to use stand-by plants to meet emergencies, keep a sharp eye on weather forecasts. Tuesday is the traditional ironing day for the housewife and if Tuesday happens to be a dark, dismal day, following a very bright Monday which resulted in a favorable wash, the power load is likely to soar.

A BAKERY chain operating in Montreal is said to have learned this lesson. If the weather is unpleasant the housewife phones to hubby to bring home the bread and cookies. If it is a fine day she will walk down to the corner store herself. The management wants to know beforehand if its deliveries are to be concentrated in the downtown areas or in the suburban retailing centers. In an American city this knowledge is reported to have saved one big chain a quarter of a million dollars a year. These are just a few random selections from a long list of processing and distributing activities which are vitally concerned with accurate forecasting. To meet their individual needs many of them are supplied with a special forecasting service.

In the field of agriculture the weatherman makes some important contributions but these are more familiar in those portions of Canada where specialty crops are more highly developed. On the prairies, where farming follows a single pattern over a wide area, and where seed time and harvest are pushed with frenzied speed anyway, not much can be done to increase the effectiveness of 24-hour tractor operations. Storm warning or no storm warning, seeder and combine are never halted as long as they can work.

As a further service, the Canadian weather chiefs have inaugurated a special frost warning service for fruit growers at the two extremes of the country. The B.C. orchardist can do much to protect his crop with smoke pots if he has sufficient warning. On the other hand it costs money. The cost of three or four all-out smudges may eat up the profits from a whole crop. It is therefore of importance to the grower that the pots be not lighted unless frost is sure to strike. It is reported that last year the pots were not generally used once because of the assurance provided by the weather service. Because of the growing dependence on the weatherman the number of pots in British Columbia valleys is multiplying. Nova Scotian apple growers, who have been at it a little longer, declare that the cost of protecting their orchards has been cut in half by the forecasting service.

OUT on Lulu Island in the Fraser delta a group of farmers are growing sugar beet seed. The usual routine calls for spraying to protect the crop from an insect which is destructive in that locality. The spraying is done from airplanes. To be effective it must be done on a calm day, and there must be no rain in the ensuing 24 hours. Consequently the weatherman is asked to fix the day.

In southern Ontario tobacco has become an important crop. One of the chief hazards is fall frost. Frequently the grower has to decide whether he will let his crop mature to the right point, or to cut it a few days early thereby lowering the grade, but escaping a frost which would ruin the crop. Now the weatherman is depended on for the answer. Growers of alfalfa seed in northern Saskatchewan have a similar problem and look in the same direction for aid in making their important decision.

The Weather Office is fully conscious of the western farmers' dependence on the weather, and is always on the lookout for suggestions as to how farmers can be more effectively served by specially designed forecasts. One request, however, which is occasionally made, and which it cannot fulfill is for long range forecasts. No weatherman who has advanced beyond the crystal ball stage will attempt what the public regards as a long range forecast. Using the method developed by an American weatherman, Rossby, the U.S. department is now putting out five-day regional forecasts. Their accuracy has been sufficiently impressive to encourage the Canadian weather bureau to set up a similar service. Preparatory arrangements are well under way, but it will be some time before forecasts are released. Whereas 48-hour forecasts are based on information from the Pacific and the Arctic, longer forecasts have to be based on information from more distant sources, and it takes time to establish direct liaison with the Asiatic weathermen whose co-operation is almost indispensable.

Considering the part the weather service plays in the life of the nation, most Canadians will agree that for the $6,000,000 it costs them yearly, they are getting a good money's worth.

"Remember it's Friday, bring fish."

Seed Detectives

Continued from page 17

The amount of heat, light and moisture required by a germinating seed is related to the normal growing habits of the plant. Wheat is normally planted early, in a cool soil, when the days are relatively short. It requires a prechilling treatment, and is germinated at 68 degrees Fahrenheit. Beans are sown much later and in the laboratory they need a higher temperature and more light. This characteristic makes it possible to predict to some extent the likely germinating conditions under which a particular seed will make the best showing.

Seed is germinated by the method that is likely to give the best results. Oats, barley, sunflower, beans, peas and the like are planted in small boxes in a mixture of sand and sawdust. Two lots of each sample are usually germinated, but, with certain seeds, four lots are seeded. Cereals are planted in two lots of 100 each, and if the two tests do not check closely they are repeated. With small grasses, such as Kentucky Blue Grass, four lots of 100 each are used. The reason for this is that the seed takes so long to germinate that those doing the work are anxious to get accurate results with a minimum risk of having to do the test a second time. Some of the small grasses, such as Kentucky Blue, take up to four weeks to test fully, as indicated previously, so if two tests must be run it will be late before the test is completed and the seed can be used on the farm. Wheat takes only ten days, so even if the first tests are inconclusive, a second test can be conducted without too much lapse of time.

The counting of seeds in the laboratory is completely mechanical. A vacuum is created by an air pump, connected by a pipe to a head, flat on one side, in which either 50 or 100 holes have been drilled. Seeds are placed on the head and one seed adheres to each hole. Excess seeds are shaken off, the head is positioned on the blotter or germinating box, and the suction cut off so the seeds are no longer held. In this manner the desired number of seeds can be planted in a minimum of time.

If cereal seed is to grade Registered No. 1, Certified No. 1 or No. 1 Seed, 85 per cent or over of the seeds must germinate. This figure drops to 75 per cent for No. 2 grades, and to 65 per cent for No. 3 grades.

When cereals are tested on the farm for germination, the testing should be done as carefully as in the laboratory. If grain fails to germinate 65 per cent it is unsatisfactory for seeding. From 65 to 75 per cent is fair; from 75 to 85 per cent is medium; and 85 per cent or over is good.

WHEN testing on the farm it is important to select a representative sample, and to mix it thoroughly. Then count out two lots of exactly 100 seeds each, being sure to take the large and small seeds as they come. The seeds can be tested between two pieces of blotting paper if the paper is kept moist and covered with an inverted dinner plate. The seeds should be at room temperature; and the nearer this is to 68 degrees Fahrenheit the better. At the end of 10 days the strong shoots that will develop into a sturdy plant can be counted, to determine the approximate percentage germination.

It is often better, when testing on the farm, to grow seed in soil. The procedure is to fill a can to about one inch from the top with sandy soil, and sprinkle the seeds evenly on top, using a separate can for each of the two lots of 100 seeds. Cover the seeds with about one-half inch of loose, moist soil. The merit in this system is that weak seeds which sprout, but might not penetrate the soil to make a plant, will not be counted as viable.

SEED testing in Canada dates back over nearly half a century. The credit for founding the first seed testing laboratory in Canada belongs to George H. Clark, who graduated from the Ontario Agricultural College in 1898. After graduation he was appointed to a junior position in the Department of Field Husbandry at O.A.C. He soon became aware of the need for organized seed testing in Canada, because of the difficulty farmers were experiencing in getting high quality, weed-free seed. Part of the reason for this condition was that the United States and many European countries had established seed testing laboratories, and seed which could not be sold in these countries was being shipped to Canada, where restrictions were not imposed.

In 1899 Mr. Clark joined the Dominion Department of Agriculture, and presented his ideas on seed testing to the Hon. Sidney Fisher, who was then Minister. He was given permission to establish a small laboratory in which the quality of clover and

TABLE OF GRADE STANDARDS

Applicable to Wheat.

1	2	3	4	5	6	7
	Maximum number of seeds per pound except where otherwise stated					
Grade Name	Noxious Weed Seeds		Total Weed Seeds	Seeds of Other Crops or Species	Other Distinguishable Varieties	Minimum Percentage Germination
	Primary	Primary plus Secondary				
Registered No. 1	0	0	3	0.5	1	85
Registered No. 2	0	1 per bus.	10	1	2	75
Registered No. 3	0	1 per peck	10	2	2	65
Certified No. 1	0	1 per peck	10	1	5	85
Certified No. 2	0	2 per peck	15	2	10	75
No. 1 Seed	0	1	25	10	20	85
No. 2 Seed	1	3	50	25	30	75
No. 3 Seed	3	15	100	50	60	65

Note 1. Seed graded or sold under this Table in Manitoba, Saskatchewan, Alberta and British Columbia, shall be free from Tartarian Buckwheat (Fagopyrum tartaricum L.)
2. Ergot (Claviceps purpurea) shall not be present in excess of 2 per peck in grade Registered No. 1 or 1 per pound in grades Registered Nos. 2 and 3.

grass seeds being used in Canada could be investigated. These early analyses showed a need for seed testing, and a laboratory was set up in Ottawa. In 1905 an act to control the sale of seed was passed and, to make its enforcement possible, the Seed Branch (now the Division of Plant Products) came into existence.

The first of the stated objectives of seed testing is to enable persons who wish to buy good seed to do so. Anyone wishing to ensure that he is purchasing high quality seed can ask to see a certificate of analysis, or he may send a sample for testing to the government laboratory in his province. A second objective is to prevent the spread of weeds through the agency of impure seed, and a third objective is to prevent the introduction of new weeds in imported seed.

This last objective is more important than might be immediately apparent. Of the 187 plants listed as weeds in the Department of Agriculture publication "Farm Weeds" only 72 are natives of this country. Many weeds were introduced prior to the setting up of the Seed Branch. At the present time no seed, with the exception of flower seed, can be imported without being tested in a government laboratory. It must be clean according to our standards. In view of the fact that none of the weeds listed as prohibited noxious weeds under The Seeds Act are native to this country, but were largely imported in seed, the importance of this type of control can scarcely be overemphasized.

THERE are two seed analyst's associations, designed to improve the level of seed testing. The Association of Official Seed Analysts is a North American institution, the membership of which is made up of the personnel of the official seed testing laboratories of Canada and the United States. Each laboratory may be represented by one official delegate at the annual meeting. The International Seed Testing Association is an international organization of a semi-official nature, having delegates appointed by the countries which subscribe to the maintenance of the Association.

These associations have a place in the provision of better seed. One object is to co-ordinate the work of seed testing and to devise a system of reporting the results of analyses, in order to facilitate interstate and international trade in seeds. A further object is the bringing about of uniformity in methods of seed analysis and the interpretation of germination tests.

Prior to the formation of these associations each country or state did its testing according to the personal ideas of the man in charge of a laboratory, with the result that the tests were not comparable. Conferences and "referee" samples have made the work more uniform. The "referee" samples are identical samples sent to member laboratories, tested by each, and the results compared to determine if all are doing their tests in the same way and arriving at the same conclusions.

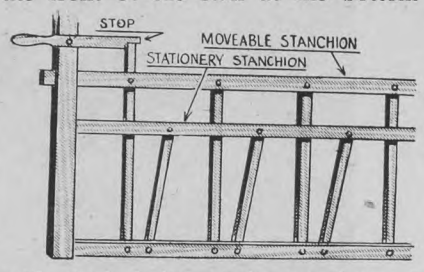
Seed testing in Canada has grown to the point where there is little excuse for seeding with doubtful material. Except in cases where a farmer buys his seed from a neighbor, he can read the government tag on the bag and know what he is putting into his soil.

Workshop in March

This is the clean-up month for odd jobs in the shop

Stanchion Release

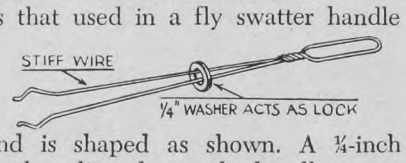
To save time in handling cattle, connect the top ends of a row of stanchions to one cross-piece. The moveable uprights must be bolted to the front of the stall at the bottom



with single bolts. At the top they are bolted to the moveable cross-bar. The latter must have free ends which can move up and down slightly as the stanchions are opened and closed. We have six cattle served by one cross-piece but more could be added. They are all released or locked in by one operation and it saves going between the animals to handle them individually.—J.K.

"Fishing" Tool

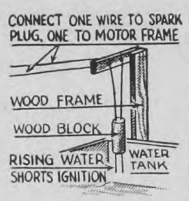
This wire gadget is for "fishing" nuts, bolts, small wrenches, etc., from transmissions and other inaccessible places. It is made from stiff wire such as that used in a fly swatter handle



and is shaped as shown. A ¼-inch washer slipped over the handle serves as a lock to hold the "fish" securely. In confined space the "lock" can be tightened down by pushing it with a small stick or rod. The apparatus has even been used to recover a large screw driver from a gasoline tank. —W.J.B.

Automatic Pump Control

This device is very simple but can only be used when spark plug type engines are used for pumping water into the trough. The voltage on igniter type engines is not usually high enough to short across the gap. Drill



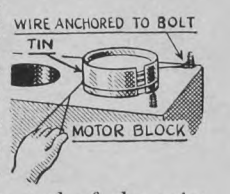
a small wooden block and insert two wires to protrude through the block. Keep them about one inch apart except at the points which should have a one-quarter inch gap between them. Suspend the block over the trough with the points downward and at the level to which the trough is to be filled. Connect one wire to the spark plug of the engine and the other to the frame of the motor. Start the engine in the normal way. There is no danger of the trough overflowing; when the water rises to the wires in the block it will short circuit the ignition system of the engine, shutting it off and stopping the pumping.—C.R.A.

Removing Rusty Screws

When rusty screws will not break loose with the screw driver I let some penetrating oil soak in for a while. If this does not do the trick I heat a rod of soldering copper until it is red then hold it against the head of the screw for a few minutes. The screw will then loosen and come out easily. —F.M.S.

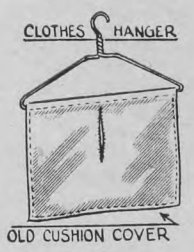
Piston Ring Compressor

On a recent overhaul job I had to improvise a ring compressor to get the pistons back in the block. I used a length of baling wire and a strip of heavy galvanized sheet iron about two inches wide and long enough to go around the piston. I fastened one end of the wire to a head bolt and wrapped it once around the tin and piston. Tightening the wire compressed the rings so the piston could be tapped into the cylinder with a hammer handle. This system works just as fast as a ring compressor.—A.F.

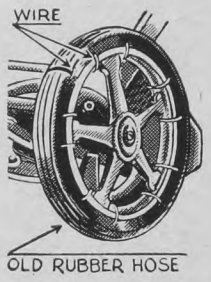


Clothes Pin Bag

Cushion covers which have served their day in the living room can be put to use as bags for clothes pins or dusters. An ordinary wire hanger is inserted at the top of the cover, then the front is cut down to form a slit opening. The edges and opening are all hemmed. When hanging out the washing the pin bag can be hung on the line and pushed ahead of the hanging operations. As a duster bag the unit can be hung on the back of a closet door.—A.P.



Modernize the Lawn Mower



Rubber tires on the old lawn mower will make it look like new. Cut a piece of garden hose to fit the circumference of the wheel. Punch holes on both sides – half an inch from each end and two between each wheel spoke. Do not split the hose as it has more cushioning effect if it is put on as a cylinder. Wire it on as shown in the drawing.—E.J.T.

Pail Carrier

You recently showed a frame for carrying pails of water but I think that my system is much better. Use an old length of line strap with snaps in each end and a buckle near one end for adjusting the length of the strap.

Hang the pails from the snaps and keep them away from your legs with a bent stick. Notch the ends of the stick to hold the straps from slipping. With this outfit, you can bend over and fill the pails without removing them and once you are standing straight, can carry them without taking any weight on your arms.—A.W.

You can SEE why Firestone CHAMPIONS Beat them all!

Look at all these EXTRA FEATURES!

Yes, you can believe your own eyes . . . You can take a good look and *see* why Firestone Tires pull better and last longer.

Notice the bars. You'll see they're curved to cup and grip the soil for a firm, sure hold to eliminate slippage.

Examine the openings between the bars. See how they flare out at the shoulders to permit automatic soil release. You'll notice there's no "wedged-in" pinching nor bar-end soil cramping.

Look at the treads of these tires. Observe how wide, how flat they are for full traction contact, long, even tread life.

Only Firestone gives you all these extra features. Only Firestone gives you your choice of top quality in either Open Center or Traction Center design. So, before you buy, LOOK!

ALWAYS BUY TRACTOR TIRES BUILT BY FIRESTONE, ORIGINATOR OF THE FIRST PRACTICAL PNEUMATIC TRACTOR TIRE

Listen to the Voice of Firestone on radio or television every Monday evening over NBC

POULTRY

[T.C.A. photo.

M. Noe Henault, District Poultry Products Inspector, Federal Department of Agriculture (left) and Paul E. Viau, manager of Dr. Viau's farm at St. Remi, Que., examine shipment of chicks in Montreal before birds leave by air for Paris.

Provincial Poultry Marketing Plans

The Canadian provinces are steadily progressing toward the orderly marketing of poultry and poultry products

THERE has been some disorganization in the poultry industry in British Columbia since the plebiscite for the orderly marketing of eggs was defeated in the province two years ago. To some extent the situation has been corrected in the last twelve months by various poultry organizations again coming to life, increasing their membership, and looking to the B.C. Federation of Agriculture for some guidance.

There is still no master commodity group organization, however, and there is no immediate prospect of the orderly marketing of poultry products going into effect. B.C. producers are apparently observing the experiences of other provinces before asking for another plebiscite.

A poultry marketing committee has been set up in Alberta. This committee presented a brief to the provincial government a year ago, having in mind that their first task was to get marketing legislation passed. They have asked that the scheme be put into effect without a vote being taken, and that, following a trial period a vote should be taken, if it is deemed necessary.

Saskatchewan also has a poultry producers' association, and, like B.C., also has adequate natural products marketing legislation. They have advanced to the extent of submitting a marketing scheme to the provincial marketing board and having it accepted in principle. Their greatest obstacle, at the time of writing, is a shortage of the funds necessary to organize producers. Originally the marketing act required a 51 per cent majority of producers, though the board let it be understood that they would prefer a 66 per cent majority, as for the honey scheme. During the past year the act has been amended so that a vote is not necessary.

Manitoba also has a satisfactory act, and poultry producers in that province have been advised by the Minister of Agriculture that he is willing to put a poultry scheme into effect. Poultrymen are in favor of such a scheme. Within the past year, 65 meetings were held in the province and votes taken indicated that 70 per cent were in favor of orderly marketing.

The proposed scheme calls for the province to be divided into five areas, one member of the board to be elected by the producers in each area. An additional member, to represent consumers, would be appointed by the Lieutenant-Governor-in-Council.

The present marketing act in Ontario would not lend itself to orderly marketing, as the term is understood in the western provinces. However, the Ontario Federation of Agriculture, through its county organizations and locals, has been calling meetings to study the B.C. Act and the New Zealand scheme, and at the same time are pressing the government to change their marketing legislation so that one of these two schemes might be adopted. The present act requires a 66 per cent majority vote, but there is little doubt that this could be obtained, as meetings on this subject have been large and enthusiastic.

Most of the poultry products in Quebec are handled through large producer co-operatives. The province has no natural products marketing legislation, and none is anticipated, so little effort has been expended in the direction of orderly marketing. However, the voice of the poultryman is expressed through the co-operatives, and through the Poultry Industry Council.

Nova Scotia has an adequate natural products marketing act, and through the provincial federation is carrying out a program designed to educate producers to the need of orderly marketing. For the present, poultry producers are observing the success of fruit marketing under the act, and after its difficulties have been ironed out will it is considered, be ready to go ahead with poultry.

Prince Edward Island has already had a plebiscite governing not only eggs, but also potatoes. The plebiscite won by the overwhelming majority of 7,000 to 35. A satisfactory act is ready, and producers are ready to set up a scheme.

There is little to report from New Brunswick, except that they have an adequate act, and at present are concentrating on the orderly marketing of potatoes. After further experience with potatoes they expect to carry out a

scheme for the orderly marketing of poultry products.

Work is now being done in British Columbia, under the auspices of the Canadian Federation of Agriculture, with the objective of drawing up a marketing scheme which would be uniform for all provinces. The original scheme which was drawn up in B.C. prior to the plebiscite is being used as a basis. When a satisfactory scheme is drafted it is planned to send an outline to the poultry representative of the Canadian Federation of Agriculture in each province for study and discussion. When they have had a month to study the scheme, the C.F.A. proposes to call a meeting of these representatives in the hope that they will be able to arrive at some marketing scheme that will be reasonably satisfactory to all provinces.

Expanding Poultry Market

VERY few marketing techniques have met with the quick success afforded the air movement of chicks and poults. As recently as last year this form of shipping was something of an innovation. This year it appears that it will be used extensively for longer hauls.

Last year 3,000 chicks were shipped to Bermuda by air. This year an estimated 35,000 will be shipped to this market. It is worth note that this market would be closed to poultry producers due to its remoteness if the conventional means of shipment were practiced. Chicks from eastern Canada will be placed on the European market, also being shipped by air.

Air shipment is also practiced on the domestic market. It is expected that 250,000 turkey poults will be flown from Quebec to the prairie provinces, and sent directly to farmers as well as to hatcheries in Manitoba, Saskatchewan and Alberta. This air movement is being co-ordinated by the Canadian Poultry Breeders Association.

Incubation Important

MANY factors can be responsible for lack of uniformity in pullet performance. Unsatisfactory incubation can be one of the more important causes. No amount of care during brooding, rearing and laying periods compensates for faulty incubation, according to A. Sansbury, head poultryman at the Experimental Station, Saanichton, B.C.

Eggs from three breeding lines were incubated up to the fourteenth day in an incubator that normally gave excellent results. Then half of the eggs from each of these lines were transferred to a less efficient machine. The chicks hatched from the two machines were brooded and reared together and carried through the first laying year in the same pens.

Mr. Sansbury found that from the good incubator 92 per cent of the pullets survived the year and laid an average of 229 eggs per bird. From the poor incubator 47 per cent survived, averaging 187 eggs per bird.

Care of Hatching Eggs

IMPROPER handling has a bearing on the hatchability of eggs, advises the Experimental Station, Scott, Sask. When eggs are paid for on a hatchability basis this has an important influence on net returns.

Dirty eggs usually do not hatch as well as clean, and washing eggs tends to reduce their hatchability. Therefore it is well to keep floors and nests as clean as possible, as an aid to producing clean eggs.

For highest hatchability eggs should be gathered three or four times a day, to prevent chilling or overheating, and stored at temperatures of 45° to 60° F. Embryo growth will begin at temperatures above 68° F., and cooling prevents this development.

Hatchability is lower in older eggs, so eggs should be shipped at least twice weekly. If this is impossible they should be stored in cases with the large ends up and the cases tilted in opposite directions on alternate days.

If eggs are handled roughly the air cell may be loosened and hatchability lowered.

Culling can be used to eliminate eggs which would not hatch. Eggs which are small, or which have thin, or ridged shells, are not good for incubation and should not be shipped.

Buy by Grade

CANADIAN poultrymen who wish to buy their chicks by grade can select birds graded and sold under the authority of the Livestock and Livestock Products Act, and so can expect to get the quality they pay for. It has been pointed out by officials of the Poultry Division, Production Service, Ottawa, that there are separate grades under the Act for chicks and poults intended for breeding or for commercial purposes.

Two grades are available under the breeders classification. "Canadian R.O.P. Pedigreed Chicks" are wing-banded chicks produced from qualified R.O.P. parent stock. They are recommended to head hatchery supply flocks. For female replacements in the same flocks "Canadian R.O.P. Female Chicks," which are also wing-banded, are an excellent source.

Commercial classification provides a choice of three grades. They are available from breeder or commercial hatcheries, and are primarily intended for the commercial production of eggs or meat. They are produced either as purebreds or crossbreds.

The highest of these grades is "Canadian R.O.P. Bred Chicks," which have R.O.P. breeding on both sides of the family. "Canadian R.O.P. Sired Chicks" have R.O.P. breeding only on the sire side. "Canadian Approved Chicks" are selected on physical basis from healthy parent stock.

Opportunity to buy by grade is important. The breeding behind chicks has a bearing on their production and on the financial returns from the flock.

Poultry Profit Prospects

THE Canada Department of Agriculture annually releases an analysis of the agricultural outlook for the year just starting. In the field of poultry production the prediction is that the small 1950 chick hatch will send egg production in the first nine months of 1951 about ten per cent lower than in the corresponding nine months of 1950.

Prospects for rather lower feed prices lead to the expectation that the 1951 chick hatch will be larger than that of 1950, with a resultant increase in the supply of farm chicken to be marketed this year. High consumer incomes and expected high prices for other meats will keep the 1951 demand for dressed poultry firm.

FARM YOUNG PEOPLE

Pictures such as this can be produced with sandpaper and pastels.

Artistic Sandpaper Pictures

A sheet of sandpaper and a box of pastels can be combined to produce a very pleasant picture

SOME hobbies are expensive and beyond the financial reach of young people. During our long winters, it is necessary to provide instructive entertainment for the younger generation. With this idea in view I am going to try to describe one hobby that will come within range of the slimmest of purses—pastel painting.

Pastel drawing paper is expensive, but go to the hardware store and purchase a dozen sheets of Three-O Flint sandpaper and a box of pastels, and to the 15-cent store and purchase a 49-cent frame. You are then equipped for the creation of a nice picture. Total cost is 51 cents, and you have enough sheets of sandpaper and crayons left to paint 11 more pictures.

Procure a smooth drawing board and pin the flint paper to it. Your box of pastel crayons contains colored crayons tinted in every shade of the rainbow, including white and black. Note the predominating color of the background of the scene you want to paint. Before you start to lay on the coloring, smooth the surface of your paper, by rubbing its surface with another sheet, taking care not to crinkle the piece laid out for your drawing. Then if the sky is of various shades of blue, rub on the crayons according to shade. Take a clean rag and tone down and distribute the coloring by carefully rubbing over the picture with a rather firm pressure, and you will find that the coloring you have put on will blend together and some of the most beautiful tints and shading can be produced.

Maybe you have a lake or water for the lower part of your picture. Adopt the same procedure. Then draw your skyline, and draw in the far-away hills and mountains, smoothing them out with the rag on the end of your forefinger. If there is some very fine work to be done, you can use an ordinary lead pencil, finishing off with your crayons. You will soon get on to the shading by judicious use of the clean rag.

Sometimes you will find your picture is too small to fit the frame exactly. All you have to do is to use the paper or cardboard mat that adorns the print that usually comes with the frame you have acquired, or you can make a mat yourself out of stiff paper. To frame your picture accurately use strips of gummed paper to attach it in place. Be careful not to smear your effort by too much handling. Put a glass over your picture to prevent smearing.

If you have any patience at all, some of the most delicately shaded pictures can be produced. If you have any artistic talent, that talent will be developed.—G. H. Herbert.

Trust Fund Established

A BOYS' and Girls' Club trust fund, designed to further club work, has been established in the province of Manitoba. The fund will be administered by the "Manitoba Boys' and Girls' Club Association," an organization which is open to all duly organized Boys' and Girls' Clubs.

The fund will be set up from fees collected as annual memberships in the association. Poultry, food, garden and clothing clubs will pay one dollar if their membership is less than 12 and two dollars if it is 12 or more. Grain, beef, dairy, swine and tractor clubs will pay two dollars if their membership is less than 12 and three dollars if it is 12 or more.

Money collected will be used to promote activities which will encourage good leadership, reward outstanding members and advance club activities. This will include sending delegates to the 4-H Club Congress in Chicago, sending a club leader to National Club Week, sending members or leaders to club conferences, paying transportation of club leaders or members from one district to another, and the establishment of a provincial camp.

Beef Clubs Prosper

THE 79 beef calf clubs in Manitoba carried on a $200,000 business in 1950. This is $15,000 in excess of the 1949 figure, in spite of the fact that fewer calves were sold.

Club members exhibited and marketed a total of 833 calves, which weighed an average of 820 pounds and sold for $30.55 per cwt., yielding approximately $249 per head. This is $48 per head more than was realized in 1949. Exports to the United States took 174 head. The remainder were slaughtered in Manitoba, and 85 per cent graded red or blue brand beef.

Squandering Capital

Continued from page 12

"In addition to individual farms entire areas are sometimes involved in water erosion problems," Mr. Dehm said. "West of Basin Lake there has been severe gullying in quite a large area. In some places they are farming up and down the slopes between the gullies, which cannot be crossed.

"In this case it is not just one farmer's concern but that of all of the farmers in the area. Those on the upper slope have to control their run-off as well as those lower down. If uncontrolled at the top the water will go all the way regardless of what those farther down may do."

MR. DEHM named several practices which will correct the damage which has been done in this and similar areas: (1) gullies filled and grassed; (2) strip contour farming; (3) diversion channels to carry excess water to grassed channels; (4) trash and vegetative covers maintained as much as possible. Since organic matter in this area is low a good crop rotation is essential and commercial fertilizer should be used.

This is not the only problem area. Mr. Dehm told of one near Muddy Lake, another near Arborfield and a third near Kamsack. There is quite a gullying problem too, along the Qu'Appelle river, especially north of Indian Head.

He found quite an interest in windbreak planting. The classic example of this of course is the Conquest project where shelterbelt planting began in the mid-thirties. By 1946 nearly 420 miles had been planted and the area protected in this way still grows year by year.

It is obvious that farmers must like them. They have helped to control wind erosion and there is good evidence to suggest that higher grain yields have resulted. Any farmer with light soil and wind erosion problems should visit this area to see what has been done.

Many farmers of the Melfort-Tisdale area have been planting caragana hedges. The idea first was to provide a permanent snow trap to keep roads open in winter. Many now are increasing their plantings, finding that they are even more valuable as insurance against soil drifting. Of course it is recognized that their use must be combined with good cultural practices in order to be effective.

Municipal road building is causing some water erosion in certain areas, Mr. Dehm has found. Sometimes these new grades change the natural course of the run-off water. Road ditches overflow, causing huge gullies.

"I saw one such gully about six miles northeast of Tisdale," he said. "It was some six feet deep and ten feet wide and extended a distance of about a quarter of a mile or more. If the road ditch had been deepened one or two feet over a slight rise there would have been no gully. The water would then have been carried away safely."

Water spreading should be practiced much more widely, Mr. Dehm advised. He told of gullying which had started in a fairly level field of brome grass just off the highway south of Imperial. In addition to the unsightly gully a lot of good water had been wasted. A little water spreading by means of the "syrup pan" method

(see cut) would have prevented this. There were many other similar areas where water spreading could be used to good advantage.

Fertility is tied in closely with water erosion problems, in the northern grey wooded soils especially, according to Mr. Dehm. These soils are low in organic matter, phosphorus and nitrogen. Sulphur also is needed for certain crops such as legumes.

"Phosphorus and sulphur can be supplied by commercial fertilizer but the low organic content must be corrected by a good crop rotation," Mr. Dehm pointed out. "Farmers are doing this by growing legumes, by green manuring sweet clover, by the use of farmyard manure wherever they can and by returning all the straw to the land."

The fertility of these soils is not high enough to continue bare summerfallow practices, Mr. Dehm said. After three or four years of continuous cropping, yields decline very fast.

"Cereal crops on summerfallow need to be fertilized with about 40 to 60 pounds to the acre of 11-48 ammonium phosphate or 60 to 70 pounds of 16-20. Stubble crops might show good response to 16-20 at the same rate. The 16-20 fertilizer, which contains sulphur, should be used on alfalfa at rates not less than 50 pounds to the acre.

Grass - legume mixtures for hay should be used rather than grass alone unless there is a weed problem which makes the use of 2,4-D advisable, Mr. Dehm said. Besides promoting a heavier growth of grass the legume adds nitrogen to the soil. Both will help to increase the amount of organic matter. By correcting the low organic content by a good crop rotation much of the water erosion will disappear.

A farmer near Caragana is one of the men who have been working in sweet clover for green manure on this type of soil, Mr. Dehm recalled. This man claims that his soil has become darker in color, easier to work, doesn't bake so often and gives better yields.

Near Leacross a farmer has been green manuring sweet clover on grey bush soil for several years. He maintains the land now acts more like a sponge, absorbing water more quickly. One field which has been green manured and all crop residue kept on the surface has been cropped continuously for seven years with no apparent loss in yield.

IN addition to green manuring to supply nitrogen, this farmer believes strongly in commercial fertilizer to supply phosphorus. He applies 60 pounds per acre of 11.48 ammonium phosphate to each cash crop. His hired man emphasized the importance attached to it by his "boss" when he remarked, "When the drill runs out of grain before we finish a round we go on to the end of the field, but if we run out of fertilizer we stop right there."

In spreading water by the "syrup pan" method a series of low level dikes on the contour, that can be worked over with farm implements, is used to make the water flow back and forth over the area to be flooded. Water spreading is resorted to only where forage crops are grown.

"In many northern areas farmers on grey bush soils were summerfallowing to conserve moisture," Mr. Dehm said. "But low fertility often was limiting yields rather than lack of moisture. The improved yields on summerfallow were partly due to the fertility, particularly nitrogen, built up in fallow years."

These farmers, when green manuring, seed sweet clover with the crop preceding summerfallow. When the plants were about 18 inches high the following year, or just before they bloom, they are worked into the soil. Mr. Dehm pointed out that this provides a much cheaper supply of nitrogen than the addition of commercial fertilizer.

One more example of overcoming soil deficiency was cited by Mr. Dehm. A demonstration farm near Radville is getting good results in moisture conservation on burn - out soils, which take careful handling to produce good yields. Through rigid moisture conservation, by preventing all weed growth, they have achieved an average wheat yield on summerfallow of over 20 bushels to the acre in the last 14 years.

Controlling early weed growth is so important to them that they have stopped spring seeding to work the summerfallow. Their high yields indicate that too much moisture is lost through weed growth before summerfallowing gets underway.

Farm and Community Builder

This Saskatchewan farmer likes to mix his mixed farming with club work and local government

EMERSON WELLS, Senlac, Sask., is able to manage four or five projects on his farm, all of them almost equally well. He produces good quality crops and livestock, and in addition carries a full share of responsibility in local club work and local government.

His livestock production pattern stresses sheep, cattle and hogs, all of good quality and all efficiently raised. He produces grain, of course, and his chief crops are oats and barley, which he markets through livestock. Instead of wheat, which he does not grow at all, the cash crop on the place is rye. He says that some of his neighbors have had good luck with wheat, but he is well satisfied with his present arrangement of livestock as his primary market products, with crops more or less supplementary to them.

Sheep production began on this farm in 1923. A range flock was built up initially, but through the years Mr. Wells has gradually switched to a purebred farm flock of Suffolks, from which he sells 35 to 40 rams a year. Many are sold privately; some go to the provincial government; and of late years he has been shipping a number to the United States. In 1948 and again in 1949 he shipped about 80 breeding ewes and a few rams to Michigan. He is excusably proud of the fact that in the fall of 1948 Michigan State College bought five head from him for a foundation flock. He has sold individual animals on the American market for figures ranging as high as $225. "Many people think returns from sheep are chicken feed today, but the sheep kept me off relief in the depression," says Wells.

The country over which Mr. Wells pastures his flocks and herds is rough and broken. It makes good pasture, but it harbors many coyotes, the bane of the sheep breeder's existence. In the fall of 1949 he was given authority to put out the poison "1080," and he calculates, judging from bodies found, that he killed 75 to 100 coyotes during the winter.

THE cattle on the farm number about 50 head of Shorthorns. He has 20 registered females, and is swinging toward the idea of a small, purebred herd. He has not started selling bulls to any extent as yet, because, in the first place, he realizes such good prices for steers that he does not consider bull production worth the additional time and trouble; and in the second place, he is busily engaged in building up a good cow herd preparatory to going into bull production later.

Hogs are featured in the farm program. He keeps four sows and takes a litter from each in January, and a second litter in late June. He considers ten young pigs raised to weaning age an ideal litter size, and he regularly attains this objective. In 1949 he raised 44 pigs from his four fall litters.

The hogs are purebred Yorkshires and, as with the sheep, most of the surplus pigs are sold for breeding. The poorer type boars are castrated and, with the occasional inferior gilt, are shipped to market. Mr. Wells has had some difficulty in keeping up with the changing standards for hogs, so for that and other reasons, he uses Advanced Registry as a means of improving his pigs. He sells some of his animals at the Advanced Registry sale held annually in Saskatoon, but the majority are sold privately.

MR. WELLS has been active in municipal government for some years. Eight years ago he went on the council, and for the last two years has been reeve of Senlac municipality. It is worth noting that he is most conscious of noxious weeds, and it is probably not mere coincidence that the municipality has a seed-cleaning outfit and a spray outfit that is used for spraying noxious weeds—especially toad flax and patches of leafy spurge—throughout the municipality.

The baby beef club at Senlac is a good one, and that is not just chance either. Mr. Wells has been leader of the club long enough and effectively enough that in 1949 he was given a leadership award. In 1948 club members—past and present—held a surprise party for him in the town hall and he was presented with a solid leather brief case, and some very kind words were spoken.

Mention of club work brought from Mr. Wells a quick comment that a successful club is no "one-man show." He admitted that he had done something, but added that people such as Mr. and Mrs. Les Holden, the Rolins, A. T. Lyster, Mr. and Mrs. Hager and many others were great club supporters and workers. Also, most of the people throughout the district are one hundred per cent behind the club. "I am more or less of a figurehead," said Mr. Wells.

The club held its first Achievement Day in 1939. The membership averages around 20 good, active members. It has had some impact on local farm life. "The club has undoubtedly improved the quality of the livestock, and kept some of the young people on the farm," says Mr. Wells. Three boys have gone to Saskatoon to take the School of Agriculture course, largely as a result of the leads they received in club work. These three boys are back in the home district and, by an odd coincidence, are all breeding purebred Herefords. Another interesting by-product of club work in the Senlac district is that a year ago former president Lawrence Bounting married former secretary Edith Hammell.

"I have taken a lot more out of club work than I ever put into it," said Mr. Wells. "I like young people, and I have met a lot of them and learned a lot." Two of his children, Russell, who helps in the planning and running of the home farm, and Mildred, are now members. Last year, Russell, who is 17, and Kenneth Mawby, 18, represented the Senlac club in the inter-club competitions in Saskatoon.

I feel that no story about Mr. Wells should be written without making at least brief mention of one other talent. I refer to the manner in which he can maneuver a pick-up over the rolling hills and valleys of his pastures! If you want a thrill that you will not forget suggest to him that you would like to see the herd, climb into the jalopy and strike out for the pastures. When you come back you will have a sensation of having ridden a critter that is the progeny of a cross between a Churchill tank and a cantankerous saddle horse! —R.O.H.

[Guide photo.

General view of the E. H. Wells farmyard at Senlac, Sask.

● **This feature is furnished monthly by United Grain Growers Limited**

MONTHLY

International Wheat Agreement

The United Kingdom during recent weeks has bought something more than 5,000,000 bushels of wheat in the United States at a price close to $2.65 per bushel or about 75 cents per bushel more than Canada has been realizing for wheat sold to the United Kingdom under the International Wheat Agreement.

That single fact illustrates very clearly how different the world wheat market situation is now from what was expected when the International Wheat Agreement was made in March, 1949, and also the changes that have recently come about.

In the original Agreement the quota for the United Kingdom was set at 177,000,000 bushels, considerably less than average annual requirements. No doubt it expected to get the remainder of its needed wheat from countries other than those which had signed the Agreement; possibly Argentina, the Danubian countries or Russia. This year the United Kingdom has bought, under the Agreement, approximately 40,000,000 bushels from Australia. That is all it will be able to get from Australia at the maximum price set by the Agreement, as Australia has already sold practically all the wheat to which the Agreement binds it. About 25,000,000 bushels have been bought in the United States under the Agreement and the United Kingdom will look to Canada for the rest of its Agreement wheat, approximately 100,000,000 bushels, of which perhaps 70,000,000 bushels have already been shipped.

When Britain or any other country now buys wheat outside of the Agreement, it is necessary to pay considerably more than the maximum price set by the Agreement.

Under present price and supply conditions there has been a rush on the part of importing countries to make the maximum purchases under the International Agreement; at the same time various countries applied for and obtained increases in their quotas, and other countries have joined the Agreement. The original Agreement provided total quotas for importing and for exporting countries amounting to 456,000,000 bushels. During the first year's operations importing countries chose to buy only about 362,000,000 bushels, or 94,000,000 less than they were entitled to buy at the maximum price. For the current year the total of quotas has been expanded by more than 100,000,000 bushels, and importing countries will try to get every bushel of that quantity. Thus during its second year transactions registered under the Agreement may exceed, by some 200,000,000 bushels, those registered during the first year.

New countries added to the Agreement include Costa Rica, Haiti, Honduras Republic, Iceland, Spain and Germany, the last mentioned with a quota of 70,000,000 bushels being the most important. Other countries have obtained increased quotas, for example: Ceylon from 80,000 to 90,000 metric tons; Ecuador from 30,000 to 35,000; Egypt from 190,000 to 400,000; Guatemala from 10,000 to 25,000; India from 1,000,000 to 1,500,000; Indonesia from 75,000 to 100,000; Israel from 100,000 to 160,000; Mexico from 170,000 to 350,000; Portugal from 120,000 to 153,000; Venezuela from 90,000 to 170,000. (A metric ton is the equivalent of 36.74 bushels.)

Canada's quota under the original Agreement was 203,000,000 bushels; it has now gone up to 222,000,000 bushels. It would have gone higher, except that Canada, fearing its inability to supply a larger quantity this year, had to decline further increases and allow them to be taken up by the United States. That country, with an original quota of 180,000,000 bushels, had yielded first place as an exporter to Canada when the Agreement was first signed. Now with an export quota of nearly 250,000,000 it officially outranks Canada as an exporter. That fact does not matter this year but it may result in awkward complications in later years if Canada and the United States are competing with each other for a share of the world's export wheat trade.

Restrictions on Wheat Exports from United States

A somewhat startling development in international grain trade took place late in February when the government of the United States announced that for a time further export sales of wheat from that country would be prohibited. That was not due to a shortage of wheat in the country, where supplies are still abundant. It was due rather to the fact that sales commitments already made will tax rail transportation facilities to meet them, while in addition there is danger of port congestion because of the scarcity of ocean tonnage.

This was the third restrictive step taken within a short time by the U.S. government. The first came shortly after the situation in Korea became serious, when the government withdrew its previous offers of wheat in its own possession, acquired as the result of its price sustaining program. Instead of continuing to offer that wheat for sale the government stated that it intended to retain it as part of the stock-piling plan against further emergencies.

Then later the government withdrew its subsidies on wheat exported under the terms of the International Wheat Agreement. In effect this meant a temporary refusal on the part of the U.S. government to meet its commitments under that Agreement. Open market prices in Chicago have been ranging from 60 to 75 cents per bushel more than the maximum price set by the Wheat Agreement, and consequently importing countries could only obtain their quota supplies in the United States if the government of that country would continue to subsidize exports by corresponding amounts.

Although quite evidently there is now much less enthusiasm in the United States for the International Wheat Agreement than when that document was signed, presumably the country does not intend to make a permanent default in respect to its obligations thereunder. It does intend, however, not to be put at a disadvantage as compared with Canada and Australia, and to see that these countries fulfill shipping obligations at least

COMMENTARY

to as full extent as does the United States. It will want to benefit proportionately with other exporters if any of the importing countries fail to take up the full quotas to which they may be entitled under the Agreement. The only important country to which that applies is Italy, which may not need this year all the wheat to which the Agreement entitled it. In fact Italy has been reselling some of the wheat it obtained under the Agreement. That situation may raise a question before the crop year comes to an end as to whether or not, in such circumstances, Italy will be entitled to call on the exporting countries for its full quota.

Manitoba Referendum on Coarse Grains Marketing

Premier Campbell of Manitoba has announced that his government will introduce legislation to take a referendum among Manitoba farmers on the subject of coarse grains marketing. On the results of the voting will depend whether Manitoba continues in force its present law for compulsory delivery of oats and barley to the Canadian Wheat Board. The forthcoming vote is the result of considerable agitation in Manitoba on the subject, and the signing of numerous petitions in which producers have declared their desire for a choice between selling their own grain and delivering it to the Wheat Board for sale on a pooling basis. Before the referendum was announced it seemed probable that a private member's bill might be brought into the legislature this session for repeal of the province's compulsory law.

According to the Premier's announcement the vote will be taken as soon as possible after results are known of the second year of operation by the Wheat Board as the sole marketing agency for oats and barley. The date for voting therefore will depend upon how long after July 31, 1951, it takes for the Wheat Board to wind up its accounts for the current crop year. In view of elevator and transportation congestion that may well occupy some months and perhaps November, 1951, is the earliest time at which the vote might be taken. It might even be delayed for a month or two later.

No statement has yet been made as to how voting lists for the referendum will be made up or as to what questions will be submitted to the voters.

If the Manitoba vote calls for a change presumably that will be made by the provincial legislature at the session in 1952, at least a year from now, and too late to affect marketing of the 1951-52 crop. No change in Manitoba would operate to change conditions in Saskatchewan or Alberta unless some action should be taken either by the legislatures of those provinces or by Parliament at Ottawa.

High Cost of Transporting Grain by Water

Overseas movement of grain has become both more difficult and more costly as the result of the international situation. A great volume of ocean shipping is now tied up in the transport of military supplies to Korea, and in the program for military preparedness in other parts of the world. Cargo space for grain has become comparatively scarce, and rates for ocean shipping have advanced sharply. There have been rapid fluctuations in ocean rates, and a quotation made at any time may not hold for long. Recent bookings from Vancouver to European ports have been on the basis of approximately 54 cents per bushel. From Atlantic ports ocean rates have been approximately 35 cents per bushel, making the total cost of moving grain from Vancouver approximately the same as that for movement from the Lakehead to overseas ports.

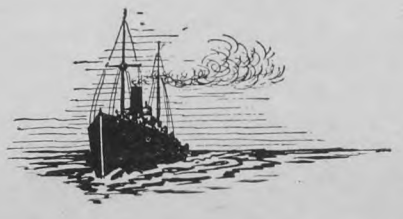
At the same time rates for water transportation on the Great Lakes have gone up. Such rates, as between Canadian lake ports, are under the control of the Board of Grain Commissioners although it must be admitted that the actual power of that body to keep them down is very limited. Water transportation of all kinds is highly competitive, and if lake boats are to be kept in the business of transporting grain, they must be allowed rates to keep enough vessels in the business, instead of having them transferred to other business from which higher revenues might be derived.

The Board of Grain Commissioners recently authorized an increase of the water rate from the Lakehead to Montreal to 16 cents per bushel. That is an increase of 3½ cents per bushel over last year's maximum rate, and it contrasts with a rate of eight cents per bushel, which not very long ago was considered normal for this business. Concurrently the maximum rate for wheat from the Lakehead to Georgian Bay ports was increased to 5½ cents per bushel against a maximum rate of 4½ cents last year. Other increases were to Port Colborne from six cents to 7½ cents; to Toronto from 6½ cents to eight cents, to Prescott from 7¼ cents to nine cents.

An additional two cents per bushel is to be allowed on grain loaded during December, 1951, to compensate for the high insurance rates which prevail on the Great Lakes toward the close of the season of navigation.

Under the ceilings set by these maximum rates costs of lake transportation are subject to competition, and theoretically might bring about lower rates. However the demands for lake transportation are so great that men in the vessel business do not expect declines during the coming season.

So far as concerns wheat sold under the International Agreement, prices are established on the basis of grain in store in elevators at the Lakehead. As long as these are at the maximum set by the Agreement the cost of water transportation, either by lake or in ocean going vessels, is borne by the purchasers and does not affect returns to producers. Much the same situation applies in respect of coarse grains, the market values of which are determined on the Lakehead basis in relation to the possibility of shipping them to the United States.



A Matter

Continued from page 16

The little hoard of money in the tobacco can was so pathetically long in growing. There was always something. Last winter it had been Pete's tonsils. Then there was the time Bill had needed some unexpected repairs for the binder. It had been wonderful to help Bill, though. She still felt warm around her heart when she thought of the way his dark eyes lit up and the relieved grin on his thin, brown face when she gave him the money for the repairs.

IT always seemed there was something needed. But lately the hoard had been growing, and lately, strangely, there had been no demands for money.

She took out three dollar bills. A boy of 17 shouldn't bid more than three dollars for a girl's decorated box at the social. Maybe Pete would want to bid, too. She took out three more. She put $19.60 back in the can and hid it at the back of the cupboard. Then she stared at the clock on the dresser in sudden consternation.

She hurried into the kitchen to start supper, and saw Bill coming from the barnyard. He was whistling as he came. "Supper nearly ready?" he said, coming into the house.

"Where are the boys? It's late for them. What's keeping them, I wonder?" Her grey eyes were suddenly apprehensive.

"You old worrier," he grinned, giving her an affectionate pat. "They're working."

"Working?"

"Yes, ma'am! Pete's helping Sam Leggat with some fencing, Jim's down at the store. Don and Davy are cleaning the school."

"Cleaning the school?" she repeated.

"Janitor's job. They took it on as from today."

"But . . . why? What for . . ." Her grey eyes were wide and curious.

"Search me." Bill shrugged his blue denim-clad shoulders. "They want to earn some money, I guess. Maybe you haven't noticed it, but they are getting very money conscious lately."

She shook her head and the sunshine, streaming through the window, picked out streaks of silver in the smooth blond strands of hair.

"I guess I haven't noticed," she said, "but I know they talk jalopy from morning 'till night. Bill, you don't think they should buy an old car . . . if they have the money I mean . . ."

"If they want to work hard and earn the money, I don't think we should interfere, honey. After all, Jim's 17, and Pete's got a good head on him."

"But the twins . . ." Mary said faintly . . .

"Probably they want to help, too." Bill slid his arm around her. "Anyway, I'm here, honey, and I sure want my supper."

He swung her around and planted a kiss on her rosy lips. "Here's Don and Davy now, and the little Andrews kids with them. Pete will likely get his supper at Leggatts'."

"And I suppose Jim won't be home for supper either." There was a hint of tears in Mary's voice and Bill's glance was tender.

"Now don't be like that, Mary," he said quietly, "the kids are growing up, that's all."

"Next week," said freckled Don, helping himself to potatoes at the supper table, where the two little Andrews boys sat with Dave, and his father and mother, "North-West Mounted is coming to the show in Creston. Boy! I'd like to see that pitcher."

"Boy! So would I," echoed Dave.

"Me too," piped up Johnny Andrews. "I ain't never seen that pitcher."

"Mom!" Don looked out of the side of his hazel eyes at Mary. "Mom, if the car'll go that night, maybe we could go . . ."

"An' take Johnny an' Stan." Davy's eyes met his mother's and there was calm certainty of her reaction in their brown depths. Johnny and Stan held their breath, their forks festooned with cole slaw, held rigid.

Mary looked at the eager little faces. The Andrews children in all their nine and eleven years respectively, had seldom seen a movie.

"North-West Mounted," murmured Don rapturously. "Indians and trappers an' bears and Mounties."

"Mounties!" repeated the Andrews brothers, simultaneously and two pairs of big blue eyes were wide and wistful as they looked at Mary.

"I guess we can manage it," said Mary. She had a vision of the red tobacco can floating in the air and rapidly disappearing.

"Our mother said we could stay the night," volunteered Johnny Andrews, as Mary cleared the table for the inevitable model airplanes and tubes of liquid glue. "Mother has to go to Aunt Amy's tonight."

IT was late when Jim and Pete came in. Mary heard them on the back porch. They were whispering and laughing, and suddenly she felt a stab, as if she were shut out of their lives. Why didn't they come in and tell her what they had been doing? What was the matter with them? For the first time since they were born, she wished they had been girls, then was ashamed of the thought.

She gave her shoulders a little shake, and laid down the sock of Pete's that she was darning. Bill, reading the farm journal on the old leather lounge put down his paper and looked at her, his dark eyes grave and understanding.

"Your best pants are on the bed," said Mary to Jim, as the boys came into the living room. "I pressed them. And what about some money for the box social? I suppose you will want to bid on Kathie Lindley's. Or did you get some money from Mr. Ryley at the store?"

Jim's eyes, dark like his father's, sparkled and he sat down on the floor and looked up at his mother. "No. And you're wrong this time, I'm not even going."

"Not going?" Mary laid down the grey and red sock and her eyes were wider than usual. "Not going to the social?"

He shook his dark head. "Too tired." He yawned prodigiously showing perfect teeth. "How about you, Petey?"

"Me too," said Pete. "That's a racket! Too much money!" He ran his fingers through his blond hair and opened the collar of his blue flannel shirt. "Boy, old Leggat's a hard man to get a dollar off of. Sure tight!"

"Different working for someone else than your dad," said Jim. "Money's hard to come by when you're working

for the other guy. Makes you want to hang onto it."

Mary looked sympathetically at him. "I can let you have the money for the social, Jim. You too, Pete. There's no need for you to stay home and save your money."

Jim stood up, towering over his mother. Then he bent, and with awkward gentleness, stroked her smooth hair. "You keep your money, Mom. We're getting big boys now."

"Besides, we don't want to go," said Pete. The boys looked at each other and went off to their room.

"Bill," said Mary tragically. "I saw a yellow sale bill sticking out of Jim's pocket. They are after an old car, I'm sure of it . . ."

"What of it?" said Bill. "For goodness' sake, Mary, don't worry so. When I was Jim's age I was crazy for a beat up motor-bike. Got it, too, and sure wished I hadn't."

BY the end of the week, the two older boys seemed to Mary almost like strangers. Pete, besides taking on various jobs with neighbors, spent all his free hours working with his fret-saw, making fancy photo-frames, pipe and tie racks, which he sandpapered and varnished and evidently sold, as they vanished.

Jim went down to the cross-roads store almost every evening, to help unload freight and give Mr. Ryley a hand in the warehouse.

When Mary inquired the reason for all this extra work, the boys just laughed, or gave her such evasive answers that her worry was intensified. The climax arrived on the night that North-West Mounted was showing at the movie theatre in Creston.

"Don't forget," Mary told Don and Davy. "Tonight is the show at Creston. Come straight home from school and bring Stan and Johnny Andrews with you for supper. We can go on from here, then."

"We're . . . not going," said Don, turning away quickly from his mother, and fiddling with clumsy fingers at the strap of his lunch box.

"What?" Mary's grey eyes opened wider than usual, then as she saw the childish shoulders in the brown windbreaker, heaving uncontrollably, she said, "What do you mean, you're not going?"

"It's all right," said Davy thickly, his hazel eyes misty. "It's all right. We 'splained to Johnny and Stan an' they don't mind . . . much!" He gulped and made for the door.

Mary caught him by the shoulders, dropped on her knees, her blue cotton dress spread out around her, and turned Davy to face her. She wiped the tears from his rosy cheeks. "Now, what's all this about?" she said softly. "Tell mother."

"We . . . we d-d-don't w-want to go," stammered Davy, quaveringly, but Don, suddenly, his face red, said loudly. "Yes, we do want to go. We want most aw'fly to go . . . But it costs too much money. Pete said so. He said not to go."

Mary took a deep breath. She looked calmly at the two little boys. "We are going to the show tonight," she said. "I've made up my mind. I've got plenty of money to pay for it. You don't have to take your janitor's pay. Bring Stan and Johnny back with you. We are going to Creston to see North-West Mounted, and don't let Pete or Jim or anyone tell you any different."

Farm Service Facts

IMPERIAL ESSO SERVICE

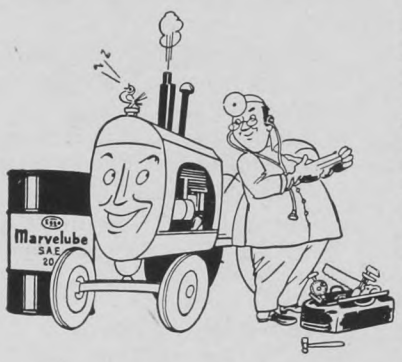
No. 19W PRESENTED BY IMPERIAL OIL LIMITED

Timely Care Saves Tractor Wear

A long and useful life for a tractor engine is determined more by the kind of lubrication it receives than by any other single factor. It is sometimes not realized to what extent good lubrication controls the general operating efficiency. A well lubricated engine operates with low maintenance and repair expense, and also develops full power at a substantial saving in operating costs. This long range view of the total operating costs places additional emphasis on the importance of lubrication. Oil and grease are cheaper than repair parts.

Getting the Tractor Ready For Spring Work

If the tractor has been used all winter, drain the anti-freeze from the radiator, flush and refill with clean water. The transmission and differential should also be drained, flushed and filled with summer lubricants. *If the tractor has NOT been used* during the winter . . . the engine should be filled with new, high quality oil of the correct grade . . . draining and filling the transmission and differential as above. Tires should be checked for cuts, breaks and cracks; also the pressure and fluid should be checked. In any case the fuel filter, oil filter and air cleaner should be removed, cleaned and properly serviced. *Battery and ignition check up:* the battery should be fully charged, and battery connections clean and tight. Spark plugs should be cleaned and the gaps reset. Ignition points should be cleaned and reset and the breaker arm lubricated (do not over lubricate). Consult the manufacturer's operators manual for correct ignition timing, and other servicing, such as water pump lubrication, and front wheel and clutch bearings.



The tractor needs a spring tonic, too.

Servicing is Based on Hours of Work Done

Most tractor manufacturers base their lubrication and service recommendations on the hours of work (and type of work) the tractor has done. Time of oil change, for example, varies with the type of tractor. The following recommendations, therefore, are general. To be specific . . . it is always wise to refer to the manual supplied with your particular type of tractor.

At ten hours (or one day), assuming that the tractor has had a spring check up, these are the things to do after the first 10 hours of work: Fuel and grease the tractor. Check the crankcase oil level and the water in the radiator. Service the air cleaner and breather. It is important to have the oil level at the recommended point. Efficiency is lowered when the level is either too low or too high. (If operating under maximum load or extremely dirty conditions, servicing may have to be done after 5 hours of work.)

At 60 hours (or one week) remove and clean the air cleaner . . . clean the radiator fins . . . lubricate the fan, the magneto impulse, the clutch bearings, the starter and generator. Check the tension of the fan belt. Check the oil level in the gear cases. Some manuals say this is the time for an oil change. *It is important to change oil when recommended . . . also the grade and type recommended.*

Showing the assembly of a typical air cleaner The dirt picked up in the cap is ample evidence that this should be checked . . . often.

For the Rest of the Season

At 120 hours . . . check the manual for your tractor to see when oil should be changed, and oil filter serviced. *At 240 hours* . . . clean the sediment bowl . . . clean the spark plugs . . . service the magneto and points. *At 480 hours* . . . clean the fuel screen at the carburetor . . . flush the cooling system . . . adjust the valve tappets . . . the clutch and the brakes . . . clean and adjust front wheel bearings. *At 960 hours (or yearly)* . . . change the lubricant in the gear case . . . tighten all bolts . . . have tractor checked by dealer.

Check Spring Tillage Machines, Too

Along with the tractor, tillage machines will do better work if they are cleaned and checked over in the spring . . . repairs made and worn parts replaced. They should be lubricated before starting spring work. Then . . . frequent and regular lubrication during the work season will give better service than infrequent greasing with excessive amounts.

Don't Be a "Worry Wart"

and look like this

Get a STORAGE TANK

and look like this

Now, you don't have to worry about your tractor fuel supply next spring. No worry about idle tractors . . . if bad roads should slow down our deliveries.

With a storage tank you can beat any combination of weather and roads. You can be ready to go "full steam ahead" regardless of how early the season may be.

IMPERIAL ACTO GASOLINE

Is a natural for the low compression tractor. Gives you more power for the heavy loads . . . better and more uniform performance at variable loads. Acto gives you quick starting . . . no extended warm up needed. Less trouble with temperature control. Acto is your best bet for the low compression tractor. It's carefully refined to meet the rigid standards of all Imperial Oil Products.

SEE YOUR IMPERIAL OIL AGENT

Next Issue of Farm Service Facts: . . . Storage of Fuels and Lubricants

It's that car! That crazy jalopy! thought Mary, as she worked mechanically during the day. It's on Anderson's sale bill. I saw it. That was all she had seen, in big black letters on the bill advertising the sale.

"One old touring car. As is!"

As is, she had thought, bitterly. And they'll wreck it and themselves . . . and Bill won't stop them trying to get it . . . Now, she was confident that they wanted even the little boys' money to help pay for it.

"What on earth has come over them," she said aloud worriedly.

THE show was wonderful. The old Delton car behaved like a 1949 model. Ice cream after the show put the final ecstatic touch to the Andrews kids' and the Delton kids' happiness, but Mary put in a bewildered and unhappy evening.

I suppose it's natural, she told herself, as the old sedan rattled along the road back to the farm. I suppose the boys are growing up and away from home. But why can't they tell me? Why don't they take me into their confidence? Maybe it's me. Maybe they think I'm against them . . . Well, I don't want them to buy an old jitney . . . A sudden thought struck her.

"Bill," she said, "did I see the stock truck out in the yard today? Did you sell something?"

"Sold the black and white calf . . . Neddy," said Bill.

"Oh," said Mary blankly. Surely Bill didn't intend to help the boys.

"What's the matter old girl?" Bill's arm slid around her. "Your face looks awfully grim in the moonlight. What's up?"

"It's just the boys, Bill," said Mary, wearily. "It's Jim and Pete . . . I can't understand . . ." She broke off suddenly and peered through the windshield, her grey eyes wide and terrified.

"Oh Bill! Look! Look! That glare in the sky. Good Heavens, Bill, there's a fire! It's our place. The house is on fire. Oh Bill, look!"

The little boys in the black seat, half asleep, sat up suddenly, yelling. "A fire! A house on fire! Where? Where?"

"You keep those windows shut back there," shouted Bill. He swung the car around the corner. "It's not our place." His foot pressed hard on the accelerator. "It's Rimsteads'! Great Heavens, Mary, the whole house is blazing!"

Mary's eyes were filled with horror. One of her hands clung and twisted in the other. "Oh God," she whispered. "Let little Doris and Billy be safe, and Betty and Len!" Her troubles seemed childish and feeble, compared to the tragedy that was taking place in front of them.

The brakes of the car squealed as it stopped and Bill jumped out. To Mary it seemed that the whole of the population of Creston was in Rimsteads' yard, where a hysterical Betty was being cared for by the women, and where grim, dark men, their faces black with smoke and sweat, labored mightily. But in spite of their frenzied efforts, the flames shot up into the midnight sky, devouring the Rimsteads' home.

Mary hunted around until she located the Rimstead children crying drearily at the corner of the fence, then she carried them to the car, and with Don and Davy and the Andrews youngsters, drove home.

She washed and fed the distraught Doris and smaller Billy, and tucked them into her own big bed. She got the excited twins and the little Andrews boys safely into bed. Then she sat down to think things out.

From the recesses of the clothes cupboard she brought out the red tobacco can, and tipped the contents onto the table.

The evening's entertainment had taken the better part of $5.00. Still there was $20 left to start a fund for the Rimsteads. She was sitting, looking pensively at the money when the door opened and Bill, Jim and Pete came in, their eyes red-rimmed, their faces grimy and smoke-blackened.

"Well," said Bill, "been robbing a bank? What's that?"

"My hope chest," said Mary. "Where's Betty and Len?"

"Sam Leggat took them home with him. He's got a shack they can have until they get another house. I said we'd keep the kids for a while. Okay?"

"Of course," said Mary. "I guess everyone will chip in and help."

"They're starting a fund at the store tomorrow," said Bill, "I suppose that's your contribution?" He nodded towards the collection of dollar bills and silver coins and pennies on the kitchen table.

"Twenty dollars," said Mary, "and don't ask me how I managed to save it, because I don't know."

"I won't ask," said Bill, "I know. By doing without lots of things you could have got for yourself."

Jim and Pete looked at their mother, and at the expression on their young faces, Mary's grey eyes were luminous.

"I . . . We . . . have . . ." began Pete, but Jim gave him such a scathing glance from his dark eyes, that Pete broke off in confusion.

"Goodnight Mom. 'Night Dad. Been quite a session hasn't it?" he said, and the two boys went into the little room they shared.

AS the bedroom door closed, Mary heard Jim say softly, but angrily. "What the heck. We're not giving any of that away."

"I never thought I'd live to see the day when Jim would not be generous," said Mary, as she undressed wearily. "They must have money. Both Jim and Pete must, after all this time. Surely they won't hang onto it, when Rimsteads need it so badly."

Bill said, "Don't worry about it. Leave the kids and their motives alone. We have enough to give."

Mary tossed restlessly all night. Surely, she thought, money couldn't mean so much to her boys. Surely they would share with neighbors in such straits. Morning came in at the window, and poked relentless fingers into her red-rimmed and weary eyes.

And as it grew light, she heard soft footsteps go from the boys' room and out into the yard. She got up and peeping from behind the curtains at her window, she saw the boys hurrying away.

"Where are they going, Bill?" she said, loudly, and Bill got up and looked out of the window too.

"They're going with Bob Ryley to Anderson's sale," said Bill. "They have to help Ryley at the store first."

"Sneaking off," said Mary bitterly. "Why couldn't they have breakfast? Why couldn't they tell me? Bill . . ." she turned and faced Bill, her eyes wide, "Bill, they haven't got sufficient

money to get that old car . . . they can't have . . ."

"I don't think so, unless it goes very cheap." Bill's tone was casual. "Now, forget it, honey. Let's have breakfast. You know what kids are . . . always going somewhere . . . Forget it, and be thankful we have a home for them to come back to."

"Oh, I am . . . Poor Betty and Len . . . Bill, I must dig out the spare box and see what's there I can give them."

It was almost dark when Bob Ryley's truck drove into the Delton yard. Mary had been watching the road from the livingroom windows.

"Here they are," she called to Bill. "Here's Ryley anyway, and yes, there's Jim getting down." Her heart began to beat happily. They hadn't bought the old car. They would surely have persuaded Bob Ryley to tow the old wreck home, if they had.

She opened the kitchen door. "Come in for coffee, Mr. Ryley," she called. "Boys, you must be hungry. It's long past supper-time."

"In a minute, Mom," called Jim. His voice was jubilant. "Pete," he shouted. "Don't try to get that out of the truck yourself."

"Just a minute boys," said Bob Ryley, and then, in the light that streamed from the kitchen doorway, Mary could see the three figures lifting something down from the truck.

BILL came up and stood beside her, his arm around her. "I don't need to help them. They can bring it in themselves." His arm tightened around her slim waist, and suddenly, nervous and weary from lack of sleep and worry she clung to him.

"Bill," she whispered, "What is it? What have they got?"

They were at the door now. "Make way! Gangway!" shouted Pete, and struggling with the object wrapped in sacking, they pushed into the kitchen.

Bob Ryley wiped his sweating brow. "I won't stay, thank you Mrs. Delton. Got to be back at the store. You've got good kids, Mrs. Delton."

He was gone, and they heard the truck roaring out of the yard. Mary stared with bemused eyes at the saeking-wrapped object, at Bill and at Pete's joyful grin and Jim's glowing dark eyes.

"Aren't you going to unwrap it, Mom?" asked Jim gently, "It's a washing machine. We got it at Anderson's."

"It's second-hand," said Pete, apologetically, "but it's sure in good shape . . . " He whipped the sacking from the handsome white machine. "Looks just like new, Mom, doesn't it?" he said proudly.

"Oh boys!" Mary groped for Bill's big white handkerchief. Her throat felt thick and her chin quivered. She put her arms around them, and Bill said, "Nothing to cry about honey!"

"What do you think about it, though, Mom?" said Pete again.

"It's beautiful. Beautiful!" Mary looked at the machine her grey eyes shining. "I can't quite realize . . . Boys, how could you do it . . . and keep it such a secret . . .?"

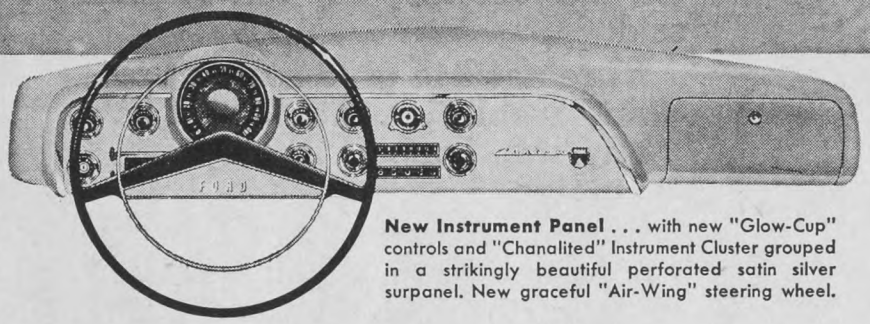
"Dad knew," said Jim. "He helped us." His dark eyes were full of love.

Mary turned to Bill. "They did it for me," she said. "They worked and saved . . . for me."

Bill held her close and his eyes smiled down at her. "Just a little matter of appreciation," he said softly. "That's all."

TEST-DRIVE IT! COMPARE IT! '51 FORD

Fender skirts and white sidewall tires optional at extra cost.

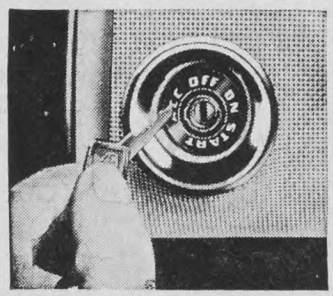


New Instrument Panel . . . with new "Glow-Cup" controls and "Chanalited" Instrument Cluster grouped in a strikingly beautiful perforated satin silver surpanel. New graceful "Air-Wing" steering wheel.

FEATURE FOR FEATURE FINER BY FAR!

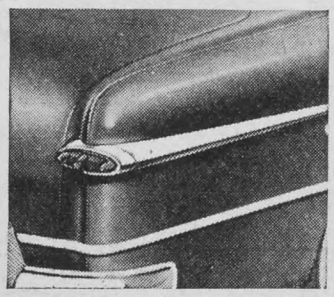
"Step-ahead" engineering brings you forty-three *new* "look-ahead" features in the '51 Ford. Some of these features are illustrated and described here. Others include new "Dual Spinner" Grille and new "Luxury Lounge" interiors . . . new Automatic Ride Control and improved 100-Hp. V-8 performance . . . safe, solid "Lifeguard" Body and King-Size Brakes, "Double-Sealed" against weather. Test-Drive the new Ford and you'll *see* and *feel* for yourself the quality difference these features make. Compare and you'll agree that feature for feature Ford *is* finer by far . . . with "step ahead" design that puts you far out front in style, performance, comfort and *economy!* Buy for the future . . . buy *a Ford.*

FORD THEATRE . . . radio listening you'll enjoy . . . every Friday night . . . Dominion Network

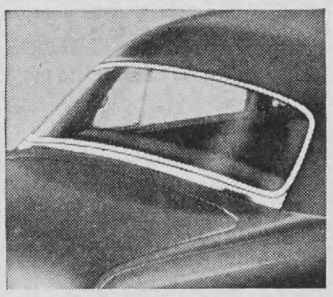


Key Turn Starter . . . just turn the ignition key past the "On" position and engine starts automatically!

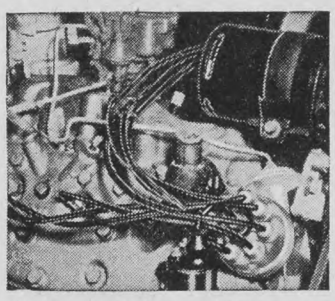
Automatic Posture Control spring-actuated to position and "angle" entire seat for maximum comfort.



New chrome "Windsplits" attractively dress up the rear fenders and new-design tail lamps . . . add that gleaming "finishing touch".



New rear window styling— Beautiful new chrome moulding with extra wide base frames the gracefully curved rear window.



Automatic Mileage Maker . . . a self-regulating system that matches ignition timing to fuel charges . . . gives more miles per gasoline gallon.

Key-Release Deck Lid Latch. Turn the key and the counterbalancing hinges cause the lid to spring open as if by magic. So easy, convenient!

YOU CAN PAY MORE BUT YOU CAN'T BUY BETTER

Ford MONARCH

VISIT YOUR FORD DEALER TODAY

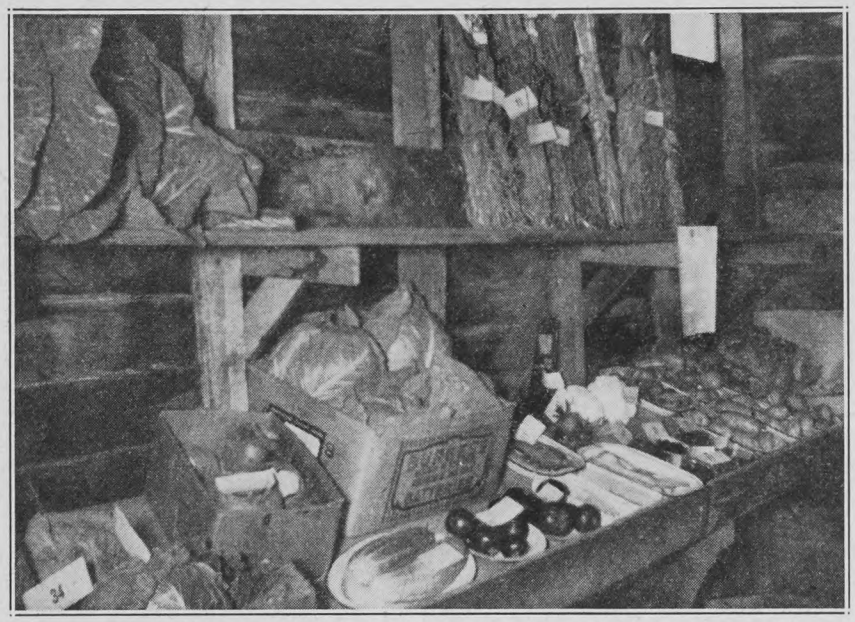
Gardening at Dawson City

Dawson and nearby Mayo in the Yukon Territory can grow nearly all the vegetables and truck crops they require

by **D. M. STRACHAN**

MANY tons of vegetables are required each year in the Yukon Territory to feed the populations of Dawson City, the near-by placer gold mining district of Mayo, and the city of Whitehorse, with a combined population of around 8,000. There is little good land for a considerable distance out of Whitehorse, but the Federal Department of Agriculture has an experimental substation a hundred miles west on the Alaska highway. Dawson is 300 miles distant on the Yukon River, and travel in summer is by river steamer. There is no year-round highway available, but a winter road is in use over the 300-mile 14-hour distance.

There are, it is estimated, at least 50,000 acres of rich farm land in the valleys of the Klondike, Yukon and Stewart rivers. In addition, large tracts of higher bench lands, freer from frost, offer a safer risk. Most of the land is either river silt, or highly organic soil derived from decayed grass roots and poplar and cottonwood leaves, which make a very rich four to six-inch soil that will last for years, when properly handled. There are gardens in Dawson City which have given excellent crops for 14 years, without fertilizer.



The stage of growth reached by D. M. Strachan's vegetables grown at Dawson, Yukon Territory on August 17.

The big farming problem is the cost of land clearing, and only those can afford it who can wait at least four years before returns begin to come in. Rainfall, enough to produce a good crop, can be expected in six out of each seven years. Annual snowfall is about three feet, and if planting is begun by the middle of May, there is always enough moisture to give quick germination and get the plants away to a good start before the hot weather arrives. The average growing season has 105 practically frost-free days. Light frost may come early in August, but it will not injure most vegetables except the bean.

Since the establishment of the experimental substation on the Alaska highway, west of Whitehorse, more attention has been paid to suitable varieties. I would recommend Carter's Early and Columbia as the two best types of potato for use here.

Cabbage does well, and our choice is Golden Acre for early, Copenhagen Market for mid-season, and Danish Ballhead for late crop. Cabbage will keep until February or later. The season is too short for Brussel sprouts, but garden peas grow easily and produce well, though late or tall varieties are not recommended. I favor Little Marvel. Carrots, turnips, head and leaf lettuce, parsnip, radish, small onion and onion sets do well. We have grown Far North melon, but cannot mature corn.

We grow Gem Everbearing strawberries, but winter plant losses are heavy. A local hybrid between a domestic and native strawberry is extremely hardy, sweet, and light-red to orange in color. We prefer the Honeyking raspberry with Starlight next. Chief and Latham need to be laid down and well covered with snow. When so treated we have had raspberries withstand 69 degrees below zero. Currants and gooseberries are still new and need protection from alternate freezing and thawing in early spring.

Last year we were able to seed grain on May 14. Olli barley was ready for harvest August 1, Newall, August 17, as well as Garnet and Thatcher wheat. Eagle oats far outyielded Larain and Ajax.

An Exact Science

"IN our work at Malabar Farm and in my own concentrated work with farm gardens and soils over a lifetime, it has become increasingly apparent that good and profitable agriculture is not merely a dignified and complicated profession; it is also an exact science. It seems, for example, increasingly clear that the balances of minerals and organics, in relation to optimum production of any given crop, are as exact as the laws and balances of chemistry and physics. Any diversion from these balances would result in inferior yields, both in terms of bulk and of nutrition. There is also increasingly weighty evidence to indicate that any diversion from that exact balance increases in proportionate degree the susceptibility of a given crop to disease and to attack by insects."—Louis Bromfield.

What about Wheat Stem Rust?

Some further account of Race 15B and the efforts of plant breeders to neutralize it

READERS of The Country Guide were warned, in our September, 1950 issue, of the possibility of a serious outbreak of wheat stem rust in 1951. The Durum wheat crops of North and South Dakota and Minnesota, as well as in the Emerson-Gretna-Morden area of Manitoba, suffered severely last summer from an outbreak of a comparatively new, but extremely destructive and dangerous form of rust known as Race 15B. Principally because the rust developed late in the season, most fields of spring wheat were too near maturity to be seriously damaged. In addition to the states already mentioned, Race 15B was identified in 1950 in 14 other states: Colorado, Illinois, Iowa, Kansas, Michigan, Missouri, Montana, Nebraska, Ohio, Oklahoma, Pennsylvania, Texas, Wisconsin and Wyoming.

Specialists in plant diseases (plant pathologists) have known since 1916 that the rust organism takes many forms, which the pathologists call "races." Every year since 1919 Canadian pathologists have made surveys of the distribution of these different races of rust in Canada. They soon found that new races sometimes replaced older ones, and that when new varieties of wheat are grown, a change occurs in the distribution of the rust races. Race 17, for example, which thrived on the Durum wheats was common until 1923. Race 36 was adapted to the spring wheats grown in the twenties and the early thirties. When Ceres wheat was introduced, Race 56 became common (about 1934), and according to Dr. T. Johnson, of the Federal Laboratory of Plant Pathology, Winnipeg, had a great deal to do with eliminating Ceres from western Canada. This race has remained the most common race of wheat stem rust up to the present time.

Race 15 has been known since 1918, but was not one of the commoner forms; and it was not until 20 years later that Race 15B was discovered to have evolved from it.

In 1939 and 1940, Race 15B was found in many places in the United States, but always on or near the barberry, a shrub which is an essential host for the wheat stem rust organism at one stage in its life history. From 1941 to 1947 Race 15B was not found so frequently, but it occurred again in 1948 and 1949 on or near the barberry in many states. It had, however, never "broken away" from the barberry and become established in wheat growing areas at any distance from the shrub, until 1950. The only certain record of it ever having been found in Canada was at Killarney, Manitoba, in 1946.

TO us in prairie Canada, wheat stem rust is a wind-borne disease. There is no record of it wintering over here. It is a fungus disease which develops fastest in warm, humid weather. It reproduces by producing millions of very tiny spores, at the rate of a new crop about every ten days under favorable conditions. Summer spores are red, and account for the term "red rust," while the winter spores, appearing about September are black and account for the black rust, often thought to be a separate disease.

These black spores are carried south in the fall by the north winds and winter over in the mild climate of southern Texas and northern Mexico, where the wheat crop approaches maturity in April and May. Directly north of this wheat area is a wheat belt stretching straight northward through Oklahoma, Kansas, Nebraska, South Dakota and North Dakota, to Manitoba. Under favorable conditions the ripened rust spores follow the ripening wheat, and as infection spreads northward, the winds blow the disease both east and west of the direct line to Manitoba. Consequently, if all the states mentioned are located on the map, they will be found, with the exception of Pennsylvania and Ohio, to form an irregular fan-shaped belt, narrowest at the south, and widest along the Canadian border. This will explain why Manitoba is in greatest danger of infection, Saskatchewan next, and Alberta least.

ALL commercial spring wheat varieties grown in Canada are rust-resistant, but none of them is resistant to Race 15B. They are also susceptible to a number of virulent races of leaf rust (distinct from stem rust), which made their appearance about 1943, and have been a factor each year since then in reducing yields in Manitoba and eastern Saskatchewan, according to Dr. R. F. Peterson, Federal Laboratory of Cereal Breeding, Winnipeg.

Notwithstanding that plant breeders have been busy combatting the commoner forms of rust, they have been active, both in Canada and the United States in trying to secure varieties resistant to these virulent races of stem and leaf rusts. Already there are some selections which appeared to be highly resistant under epidemic conditions, in 1950. This does not mean that new varieties are just around the corner. Dr. Peterson reports that certain wheats resistant to leaf rust have been crossed with other wheats resistant to stem rust, and varieties or lines resistant to both have been secured. These, however, were poor quality, and have been crossed, and backcrossed, with high quality wheat such as Thatcher and Redman.

The result has been fairly satisfactory as to increased resistance and as to yield, while preliminary milling and baking tests have been encouraging. Several years of study by cereal chemists are necessary, however, before it will be certain that these new wheats can meet the standard of quality required under the Canada Grain Act. There will also be extensive yield tests across the prairie provinces to determine the areas where any new variety may be safely recommended.

In the United States, sources of resistance to rust are being sought among some 12,000 wheats collected from all over the world during the last 50 years. Already, approximately 600 breeding lines showing some evidence of resistance, are being grown this winter in southern California. The departments of agriculture in Canada and the United States, state experiment stations in provincial universities, as well as the Rockefeller Foundation are working with the Mexican Ministry of Agriculture in an endeavor to secure resistant varieties suitable to southern Texas and northern Mexico.

In Canada Dr. Peterson heads a "project group" of plant breeders, plant pathologists and cereal chemists from the Laboratory of Cereal Breeding, Winnipeg, the experimental farms and stations at Morden, Brandon, Indian Head and Melfort, the plant pathologists at the laboratories of plant pathology at Winnipeg and Saskatoon, and the cereal chemists at the Cereal Division, Ottawa, and the Grain Research Laboratory, Winnipeg. Notwithstanding the efforts now under way, it is not believed that satisfactory new varieties resistant to these new and dangerous rusts can be evolved inside of four or five years.

Meanwhile, there are certain precautions associated with good farm practice, which wheat producers would do well to take this year, and regularly for the next few years at least. These precautions are: (1) Keep on growing the variety suited to your farm or district. None of the varieties now grown are known to be resistant. (2) Use good seed, preferably registered or certified, because such seed is both pure and good. (3) Sow clean seed, to help give the crop the best start possible. (4) Seed early for the same reason, and because the earlier a crop matures, the less likelihood there is of rust damage. (5) Use some phosphatic fertilizers to encourage early maturity. (6) Consult your agricultural representative, or district agriculturist, and your nearest experimental station, or your provincial university. (7) Along with these precautions use whatever influence you have to see that the plant scientists who have been trying to produce varieties resistant to Race 15B, have sufficient help and land and other facilities to enable them to do the job as quickly as possible. Press for this through your farm organizations and through your members in the legislature and in parliament. This precaution is just as important as any of the others.—H.S.F.

Peace Tower

Continued from page 5

attention paid to the prairie, the better.

Another interesting by-product could be the dropping of the quinquennial census. For years now, the prairie has always had its census taken every five years. This was because it was felt that the West was growing too quickly to wait for the decennial census. Ten years between taking population pulses was too long.

But if these censuses in the future are only to be taken to show how the prairie is dropping population, if the figures reveal that while the so-called frontier country like Saskatchewan is going behind, while such old slow pokes as Ontario are going ahead, what then? Will the West want this semi-decennial census just to give itself bad news?

Westerners can therefore see how important it is to exploit the prairie. Somehow, somewhere, they will have to find new industries, and new people, if they don't want to be left behind. The Maritimes in 1953 will just barely hold their own, with Nova Scotia losing one M.P. For the rest, they are protected by statute from dropping below their irreducible minimum. But what about the West? No doubt of it, she ain't, any more than the grey mare, what she used to be.

Land Grows Love

Continued from page 11

In the darkness that throbbed with the rushing wings of north-flying birds, Lilleth left the house to go out to the gate and lean on the smooth logs there. Roger saw her white dress and wondered what occasion was this, for the dress was her best. He went out to the girl, irresistibly drawn. The sweetness of her youth made his voice dry and rasping as he talked:

"Come a walk, Lilleth. Come a walk along the path through the woods, back from the house. Come on."

Again he asked it, his tone urgent, his blood racing.

"But no," said the girl, standing there waiting; waiting there quietly.

His angry eyes burning on her, implored her. But she was not heeding, scarcely aware of his presence. Roger strode away, sullen and vexed.

An hour went by as she waited at the gate. An hour that was five hours long, yet hours short too. She leaned on the logs, fingers caressing their sleekness. Nor was the shiny wood so firmly smooth as her own young skin. She took odd comfort from this little discovery, smiling as she remembered what her mirror had lately told her about her attractions. So she kept waiting, and with confidence. She listened to the night noises, to the wooing of the owls and the call of a coyote lonely with longing.

At last sounded the slow, dragging steps of the young man. He loomed out of the dusk, a bundle bulged on his back. His head was bowed, weary with the miles. But he brought it up sharply enough when he saw the white vision at the gate. Even in the darkness of night he could see the morning freshness of her.

"Hello, there," called Lilleth.

There was a moment's silence.

"A beautiful evening," he answered, but he did not slow his pace. She heard his deeper breathing as he plodded on, soon out of sight in the dusk. For all the frantic plea that was in her heart, the young man did not stop. Soon he was swallowed in the darkness again, beyond sight, beyond hearing.

A moment Lilleth lingered there at the gate, and this moment was too long. She turned her back on the road.

"Roger!"

A soft call, but Roger heard it. He forgot his anger, dismissed his hurt. Swiftly he hurried out to her.

"Let's go a walk now." Her smile flushed his whole being with warmth.

"We can go back there on the wood path, like I said before. Come on!" Eagerly he led the way.

She walked with him there in the shadow of the trees. But her head was bowed now, as though she, too, carried a heavy burden and was weighty with it. That being so, she did not sense the meaning behind the awkward words of the tense young man beside her.

The night passed.

HARD things the farm folk said of this young man who had come to the wilderness beyond Blind Peter's farm. They grinned and touched their heads and looked meaningly at one another when speaking of Joel. Who ever heard of a man coming to farm with only a paltry spade for a tool? This was in the present day, not back a hundred years when the strong-hearted pioneers came to Canada. In that far-off time it would not have been thought strange at all, with none to see or care. But in modern times, a man does not pit his two bare hands against the uncouth strength of raw land. In these days a farmer has to own plows and disks and seeders, mowers, rakes, and binders. He uses a tractor, or else six or eight head of sturdy horses. He had fields that numbered 60, 80, and a 100 acres each, with two or three of such fields to a farm. And enough cows, pigs, sheep and poultry to provide a man with ready money when he needed it. All these things make a farmer.

As for Joel — Poof! A simple one, soft in the head. Kinder folk whispered that he came from long years of fighting in the wars, and that he had lost all his family during that war. So he had turned his back on the cities he used to know, to seek peace in the wilderness. Leave be, said these ones, and they spoke to him civilly and offered the loan of horses and tools. But he was independent by nature, and the kindly ones sensed it and took no offence. Then the others laughed again and touched their heads with meaning fingers as he trudged past, bearing great loads on his wide young shoulders.

BACK in the creek valley, the young man worked under the lengthening days, heeding not nor knowing the talk he caused in the district.

The small seeds were all planted, but there was still time until June's coming for putting the tubers to earth. Again he spent his days delving with the spade, enlarging his garden. Then when the poplars dropped their catkins and their brown buds suddenly burst to reveal clusters of tiny round leaves and the whole rising mountainside was spread with a fresh green sheen, he made holes in long rows and placed a fragment of potato in each, carefully turning the eyes so they looked upward and would grow rapidly. By this time, the first sown seeds were pushing tender shoots above the soil and the tracks of deer warned him that he would need a fence.

The last pell-mell days of spring, then, he spent carrying great armloads of poles and logs to build this fence. And Lilleth, who had come stepping shyly through the sap-smelling woods to spy on him, watched with glowing eyes. Joel was stripped to the waist, and the big muscles of the man rippled under his glistening skin. He worked all the afternoon without pausing for rest. A slow worker, but knowing what to do. The fence seemed half built that first day under Lilleth's spell-bound eyes. Then, when the evening shadows came, the man went to the creek. She saw him stretch out on the stones and put his lips to the water for a long drink. Then he cupped his hands and splashed the icy water over his chest and back and ducked his head out of sight in the stream.

After that, he pulled on a ragged sweater and picked up a slim pole that was leaning against a tree. It was a fishing pole with a length of line attached to it and a chunk of driftwood for float and a hook at the end. Joel kicked a stone aside and

found a beetle for bait. Then he moved upstream to a deeper pool and settled himself on the bank, resting while he angled for his supper. Lilleth watched him pull out a writhing trout and hunt another bait morsel, then seat himself again and drop the hook back into the water. Evening's spell was on the land; the day's work done. A thrush began to sing from a ravine, its flute-notes golden with mellow music. Joel raised a deep baritone in answer, and Lilleth tingled with the desire to join his song, which was of love.

Blind Peter touched her arm that night, his old face smiling: "How is it, Girl Lilleth, that you can feel both joy and sorrow at the same time as you do?"

The spring yielded place to summer and the mad craving within Lilleth eased its throb.

Joel in his valley was using his other tool now, swinging the bright axe. Cutting logs for his cabin, which was to stand on a knoll overlooking the pretty creek. As he felled a tree that was to give him a wall log, he was careful to cut away the surface roots and clear off the stump. This would save him work, come another spring when he needed more land to plant.

Now and then he left his axe sheathed in the wood of a log and hurried back to his fenced garden. There was always work to be done in the plot, loosening the soil, pulling weeds, or bringing water from the creek to relieve the thirsty plants. He watched their growth lovingly, his big hands gentle as he tended them.

Summer deepened and the flowers brightened the woods, and one day the young man cast anxious eyes on a blue-black cloud that came rumbling over the mountain. The dark body of it was fringed with white, and birds stopped their singing, tree leaves hung still, and an expectant hush settled on the land. Joel stood at the mouth of his cave shelter, staring from garden to cloud and back again. The wind whined suddenly, a chill in it that contrasted ominously with July's sultry heat. The wind dropped, and a few large blobs of rain fell slowly, warningly. Next there was a vivid stab of lightning, and through the split sky came a crashing blast of thunder. Then the hail pelted down.

And Joel rejoiced, because the stones were small and soft and could do the garden little harm despite their thick fall. In half an hour the storm had gone by, with echoes of it booming back to his valley. The garden was the better for the soaking.

BUT farmers in the lower country fared badly. The hail was larger there, hard, frozen and driven by wind. Wide fields of wheat were flattened to green puddles. hardly a stalk left unbroken. Oats suffered the same fate. Gardens were pounded to pulp. Whole flocks of chickens and young turkeys were killed outright. Even a calf or two lost its life under the fiercest lashing the district had ever known.

Joel learned about the havoc the next time he trudged to the settlement town. Ruined fields flanked the roads, matted and dejected under the burning sun. The price of vegetables had soared since the storm; he stood before a grocer's window, memorizing the details of those prices. Then he listened to the sorry talk of the farmers, too concerned over their own troubles to poke fun at this silent young man they had branded as being queer.

"I'm going to sell my stock," one farmer announced. "The price is falling already, but it's still fair. Wait until fall comes, when we find we've got no feed to winter them. They won't be worth giving away, then."

"That's right," seconded another. "All the hay lands were hit. Come winter, we'll have nothing for our horses and cows to live on. I've sold my surplus already."

Others disagreed. They said it was crazy talk, foolish to be stampeded into selling. They claimed the hail had travelled only a narrow strip of country, and there must be plenty of hay lands and oat fields left untouched. But Joel had seen the flat, dying fields on his walk to town.

Slow plans were made as he trudged the long miles home. Two days later he was back in town again with a bulging pack of young vegetables, neatly bunched and crisply fresh among their wrappings of moss he had dampened at an icy spring. The grocers bought them willingly, and part of the payment he took in supplies, part in cash. With the money he went to a hardware store and bought a scythe and stone. Then he listened again to the farmers' talk and was not surprised to hear that stock was selling cheap. Animals had become a burden to them, with no feed in the district.

IN the clearings along the creek Joel found grass in plenty. He swung his scythe all day long now, striding from meadow to meadow and leaving the cuttings strewn to dry. For days he worked at this cutting, and the whicker of his stone on the shiny blade echoed farther and farther from his garden. Evenings, he tended his plot zealously, fetching water until his shoulders ached; stooping to weed and work the soil until his back seemed permanently bowed. He slept only when the dark made further work impossible, then rose when dawn made it light enough to work again.

He had gathered his drying grass into tiny hay-cocks, doing this only after he was sure there were no more grass stands to be cut. When the cocks were cured enough, he took the stoutest of his blankets and used it for a carrier, piling the hay on it and gathering the corners in his hands and swinging the bulky bundle on his back. The pile grew slowly, the stack finally rising four times his height and fat on the ground. Before quiting it, he fenced it from the curious deer that came to the clearing while he slept.

Then he made three swift trips to town, carrying heavy loads of vegetables each time. The third trip, he waited in town a half day, talking to many farmers before he finally passed over his meagre savings. When he came home that night, he had a solid built horse to ride on with harness jingling to make triumphant music for his coming.

"Look at the fool," condemned Roger. "I bet he's got no food for it."

But Lilleth smiled, for she had been spying again on the newcomer.

The days were more full of work than ever before, with daylight time

IMPORTANT to Remember

when purchasing 2,4-D Weed and Brush Killers...

● UNITED GRAIN GROWERS LIMITED as a responsible Farmers' Company, selected the world famous line of WEEDONE 2,4-D Weed and Brush Killers, after expert investigation of various advertised formulations, as representing *UTMOST VALUE FOR THE FARMER'S DOLLAR BOTH IN EFFICIENCY AND ECONOMY.*

● REMEMBER: acid content alone is *NOT* the efficient, economical answer to your weed killing problem—just as lead alone would not be the answer to your paint job.

● WEEDONE 2,4-D WEED and BRUSH KILLERS are the proven satisfactory and economical answer to weed and brush killing problems in 53 world countries. *WHY?* Because they are the up-to-date, scientific formulations of *ALL* the ingredients—including 2,4-D acid—necessary to do the *MOST EFFICIENT* job of weed and brush killing *AT LOWEST COST.*

● As a practical farmer is not this *EXACTLY* what you are looking for?

INSIST ON GETTING

GENUINE

WEEDONE®

2,4-D WEED KILLERS

The No. 1 Weed and Brush Killer in 53 Countries

Sole Canadian Distributors: UNITED GRAIN GROWERS LIMITED

The ORIGINAL . . . WEEDONE 2,4-D WEED KILLERS are manufactured in Canada by American Chemical Paint Co., Windsor, Ontario, and Ambler, Pennsylvania, originators of 2,4-D and 2,4,5-T WEED KILLERS.

● WEEDONE CONCENTRATE 48

The original ethyl ester formulation with 3.6 lbs. acid content per gallon (57.6 oz.) for hard-to-kill weeds. Can be mixed with oil for airplane spraying.

● WEEDONE BRUSH KILLER 32

A combination of 2,4-D and 2,4,5-T. Effective on all Brush Killing work in pastures, right-of-ways, headlands and roadsides.

● WEEDAR 64

The amine concentrate with 4.8 lbs. acid content per gallon (76.8 oz.) for easier-to-kill weeds. Completely soluble in water—will not clog spray nozzles.

● WEEDUST 5% ETHEL ESTER DUST

Efficient and effective when dusting is preferable to spraying. Especially useful where water supplies are not readily available.

The West's Best Sprayer

Built To Suit Western Conditions

THE ARROW SPRAYER

While Weedone Weed Killers will give satisfactory results with any type efficient sprayer, the Arrow Sprayer is particularly recommended. Supplied as a Tractor Attachment or Complete Trailer Unit. The Arrow Sprayer is manufactured in the West and is designed to meet western conditions . . . Simple in design, sturdy in construction, efficient in operation.

Write or ask your U.G.G. Local Agent or Appointed Dealer for information and Free Literature.

U.G.G. WESTERN CANADA'S PIONEER FARMERS' CO-OPERATIVE

UNITED GRAIN GROWERS LTD.

U.G.G. WESTERN CANADA'S PIONEER FARMERS' CO-OPERATIVE

shorter. Fall frosts came. The small birds had quietly gone from the underbrush, and as suddenly the insects stopped their high-winged singing and hid away.

Joel sensed all this change around him, with hardly time to note it closely. He was using the spade again, digging up his harvest. The root crops he spread to dry during the sunny hours, gathering them together at evening and carrying them down into the cellar he had dug before laying the floor of his cabin.

THIS cabin was still without walls, and when finally the garden was gleaned of its growth, he seized his axe and drove his horse into the woods to snake out the timbers. September had ended and October came. The colored leaves had dried to yellow-brown and fallen from their twigs. Autumn was full on the land, with ice on the creek in the mornings to advise of the coming winter. And still Joel had no roof to ward off the snows that soon would fall.

Orange moons in the east, hanging above the spruce tops. Deer flashed by, the bucks wearing fine antlers newly free of velvet. Sometimes Joel heard the far-carrying cough of a bull moose and the three-note summons of the cows. Once he heard the metallic clash of antlers as two wild lords fought a love duel. Night times, as he pulled his blankets over his tired body, he did not drop into instant dreamless sleep, but lay listening and thinking. An old hunger stirred within him.

And Roger was following Lilleth again, his hot eyes glowing. But the girl paid no heed, thinking about Joel.

"He builds a large cabin," she murmured, taking a delight in the plan of it that she could see from her spying post.

Back through the woods she walked, a hope wakening in her again.

One day Joel tramped past, a great pack of vegetables on his shoulders.

Blind Peter heard him, gently asking: "Why does he not use his horse, now that he has one?"

"He will be after glass for his cabin windows, Uncle, and won't want to trust it on the horse's back."

Roger, hearing her and guessing how she knew so much about the young neighbor, said savagely:

"The man's plain crazy! A fool!"

That night Lilleth stood near the gate again, Roger with her.

"Lilleth, I've been wanting to talk to you," whispered the man.

She did not listen, not then, nor after Joel had gone trudging wearily past with a brief good-night to them and his heavy burden weighing down his shoulders. Roger and Lilleth walked the dark road side by side, but she did not listen to the man's rushing words and meaningful silences. The girl was tranquil, quietly at peace with herself. Waiting was easier now, for winter was near.

THE winter came and passed. Still Lilleth was waiting. The snows melted away, even the grey drifts in the shaded ravines. The earth was bare again, drab and dirty. Spring winds swept gustily through the valley, making the trees limber and ready for the sap. The brass trumpeting of a bull sounded over the hills, almost like music. Creek floods subsided and fish splashed up the shallows to spawn. Green began to show in the fields. A bear lumbered past, two black cubs behind her. The wild geese stretched their eager heads toward the north and winged splendidly over the valley. And still Lilleth waited.

The violets came, so small and lovely. Lilleth plucked one. Her fingers were gentle for a moment and she put the love-flower to her full red lips and slept with it under her pillow that night. Still she waited. How can she know that his heart is a yearning weight within him? The spring is madly upon the land, bursting with melody, drunken with love.

She stood beside the gate one night, waiting, and almost sulking with impatience as she waited. No one came from the mountain woods, and finally she turned from the gate. Roger sighted her, quickly hurrying to her side. There was a look on his face that was almost like anger, but seeing her impatience, he began smiling.

"Come," Roger commanded.

She walked through the garden with him, not speaking and not needing to speak. He led the way into the woodlands and down the dark path. What madness was this? Almost willingly, she walked with him along that path, and knew what would happen.

Suddenly his arms came out of the darkness, suddenly he clutched her close. Lilleth did not cry out, she did not push him away. Roger held her tight, and his lips came questing through the shadows, seeking hers.

But a shout came from the house. "Lilleth!"

It was Blind Peter's voice. Lilleth did not answer. And Peter shouted again: "Lilleth—our neighbor is here."

Suddenly, her arms found strength. She pushed Roger away, turning to run out of the dark woods. Breathlessly, the girl arrived at the house.

And there stood Joel, smiling.

CATKIN FLOWERS

1—Catkins of the black birch.
2—The male flower of the cottonwood.
3—The familiar pussy willow is the catkin of the willow before it has opened.

Table decorations which can be had before the garden blooms if you live where there are trees

by PAUL HADLEY

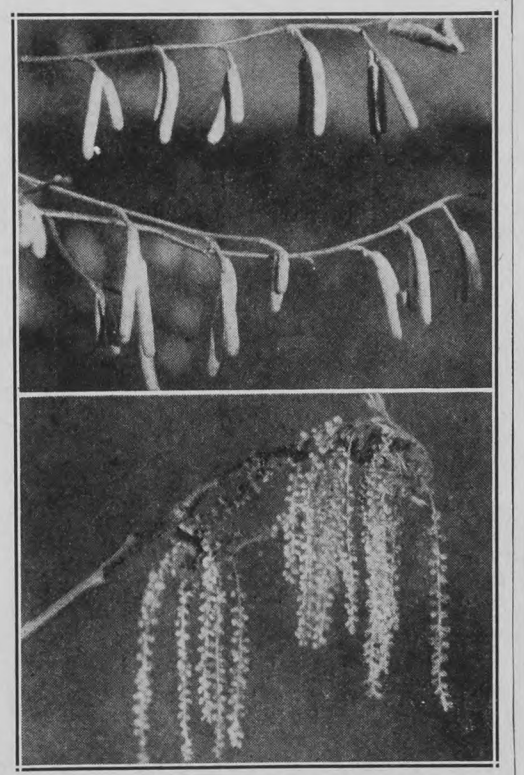
THE oddest flowers we have are those which are known as "catkins," and which are the earliest of all flowers to bloom in the spring time. Many trees and shrubs have this type of flower, the most familiar of which is the "pussy willow," whose snowy buds have been one of the symbols of springtime for many, many years. But, while the pussy willow is the best known of these odd, caterpillar-like flowers, there are many other species of trees and shrubs which also bear flowers of the same odd shape.

These flowers are the most simple of all blooms; not showy, they hang on the limbs like myriads of caterpillars. Those of the pussy willow open out later into egg-shaped flower clusters, with hundreds of yellow stamens protruding from the furry flower cluster. Other species of willows also produce catkins but are not "pussys" in appearance.

The birch trees all produce catkins, and each species of birch produces a catkin of distinct appearance, which can easily be recognized by its appearance. The poplars, including the cottonwood tree, also produce long catkins. The oak and hickory trees are catkin producers, the "caterpillars" often being three or more inches in length.

Catkins are usually the staminate flowers of the plant, and produce no fruit or seeds. Such plants usually have two kinds of flowers, the other kind being the pistillate bloom, which is the fruit and seed producing bloom. It is one of the Creator's secrets why He causes some species of trees to produce two kinds of flowers; but it is a secret which we like to solve, and studying the various types of catkins is only one of the fascinating branches of nature study which we can follow in any locality. Even children who live in the city can make many interesting nature study trips through the city parks, for many of the cultivated shade trees and ornamental shrubs which grow in these places have interesting features that are to be found in no other species.

The catkins are formed late the previous summer, and one may make their study of this phase of Creator's work in late autumn and in winter, when the branches of the trees and shrubs are bare of leaves. They are more easily seen at this season, and a collection of them taken home is interesting. Such catkins make interesting subjects for your sketching with pen or pencil and crayons.



Upper: Catkins of the hazel nut bush, well known in the park belt. Lower: Most oaks have prominent catkins. These are of the Red Oak.

Surveying Our Soils

The basis of efficient land use is a knowledge of the variety and quality of our soils

SO far, in Canada, about 700 different soils have been recognized and named. This large number will probably be surprising to many people. It might not be surprising however, if one remembers that soils are very largely made by climate. This primary factor, in addition to the different parent materials from which soils are made, and which are determined by a study of surface geology in addition to topography (marshy, level, undulating, rolling, hilly, etc.) and drainage conditions, can create a variety of circumstances under which soils develop. As a result, there are a dozen or more large groups of soils found in what are called soil zones. In the prairie provinces we are familiar with three of these zones, the brown, dark brown and black, which have been formed mainly under grassland. Each of these zones has a number of large soil groups within it.

The surveying of Canadian soils has been under way for nearly 30 years. It was begun in Ontario and in the western provinces by the provincial governments. Later it was supported financially by the Dominion Experimental Farms Service, and except for the years 1932 and 1933, when all soil survey work in Canada was discontinued for lack of funds, it has been conducted on a co-operative basis between Provincial Departments of Agriculture, the Universities or Colleges of Agriculture, and the Field Husbandry Division of the Experimental Farms Service. Prince Edward Island was the last of the provinces to begin soil survey work, in 1943. The first soil surveys in Quebec and Nova Scotia were organized in 1934, and in New Brunswick in 1938.

A soil survey is really an inventory of soil assets. The information obtained from these surveys provides a necessary basis for the investigation and solution of soil problems, and for the utilization of our soil resources to advantage. Now that governments are becoming interested in land utilization and soil conservation, the information obtained from a survey of soils within an area is invaluable in enabling them to formulate wise land use policies.

Surveying all of the soil of Canada is a gigantic task. Broadly speaking, there are three types of surveys which have been made of Canadian soils. The first is a preliminary survey in which soil is examined at fairly wide intervals, with the result that soils are classified quite generally and by no means specifically. This type of survey is very useful in undeveloped areas where it is desired to locate soils of a type which may be worth more detailed study. The second type of survey is what is called a reconnaissance survey. In these surveys soils are examined at intervals of a half-mile or less to two miles, depending on the amount of variability to be met with. After a survey of this type, maps can be made on which one inch equals from one to three miles. Of the 218,000,000 acres so far surveyed in Canada since the early twenties, about 150,000,000 acres have been surveyed by this method.

The third type of survey is a detailed survey. Here an attempt is made to show most of the soil variations to be met with. So far about 5.5 million acres of land have been surveyed in detail, in Canada, and when the results of such a survey are mapped the detail is usually sufficient to warrant a scale of four inches or more to the mile.

Of the total area so far surveyed in Canada, about 138,000,000 acres are occupied land, of which about 78,000,000 acres are improved farm land. This leaves about 33,000,000 acres of occupied land and about 13,000,000 acres of improved farm land, which has not been covered by a soil survey of any kind. Most of this remaining land, however, is sparsely settled.

ABOUT one-third of all land surveyed for soil character is located in Saskatchewan where 72,465,000 acres have been surveyed. Next comes Alberta with 68,452,000 acres; Ontario, 25,265,000; Quebec, 19,600,000; Manitoba, 14,970,000; New Brunswick and British Columbia each with over 6,000,000 acres; Nova Scotia, 4,000,000, and Prince Edward Island, 1,397,000 acres.

Information gained in Canada from soil surveys can be put to a great many uses. Surveys are of primary importance in determining what land, if any, should be opened up for settlement, for separating soil climatic zones which have a more or less direct association with different types of farming and fertility requirements. They have been used to good advantage in determining new agricultural developments such as irrigation projects and those related to soil conservation. They determine the limits of sub-marginal areas. Moreover, in areas where special cash crops are grown, such as apples, tobacco, sugar beets and similar crops, soil survey information is of great importance. The more soil survey information we have and the more detailed this information is, the more readily and accurately we can apply the results of experiment and research to the soil of a particular farm.

Immigration

Continued from page 8

slowly. Even if Canada goes ahead very quickly, the Maritime provinces can never hope for rapid expansion. True, cities like Halifax, may even double their populations in war, but like Prince Rupert, also lose half of them after the war.

Some think that the new discoveries of iron ore in Labrador will give a filip to population. The government does not think so. Nor does this writer. One has only to see how little Montana has developed to see the limits attached to a mining economy. With all its fabulous copper wealth there are hardly as many people in that state as in the Twin Cities, Minneapolis and St. Paul. Nor has the Mesabi Iron Range done much for that lonely country. Millions of dollars for Cleveland and New York maybe, but it actually does not add much to the population of Minnesota.

The prairie can hardly expand any more, as far as cereals are concerned. But the government expects that new farming methods, new irrigation schemes, will intensify population. Thus the race will go on between the depopulating tendencies of power farming, and the repopulating proclivities of irrigation farming.

Quebec, as indicated before, has its own special problems. First of all, it has absorbed as many as 50,000 a year right on the Island of Montreal. This does not happen every year, but the city itself is constantly expanding.

Again, as a resort center, Quebec province is adding thousands and thousands of people every year, who cater exclusively to the wealthy Americans and a few purse-full Canadians.

In Ontario, industry is going ahead so fast that the province is chronically power hungry. The Ontario government brings in fabulous new hydro works and within a few months, the blackouts begin again. Premier Frost told this writer that Ontario was nearer to 5,000,000 today than 4,000,000. He saw an intensified industrial Ontario. There will be plenty of room for new immigrants here.

The clay belt offers limited possibilities. I say "limited," because, although it has been touted for years, it still has not begun to fill up. Indeed, as I motored through the Cochrane-Hearst sector, I noted all too often that farms had been abandoned.

The Dutch, reputedly the toughest of them all, took a look, and said they thought there must be some other place in Canada they could go.

One speculates what could happen, if the pulp farmer cleared out of the Dryden section, if he moved away from the Fort Frances-Rainy River area. There you see dingy farm houses, neglected buildings, run-down farms. The erstwhile farmers can make a better living out of pulp than agriculture.

The Netherlands government has looked over these northwest Ontario territories, and has tentative plans to put people in there. Big families, plenty of ambition, and a desire to be as far as possible from Russia are triple incentives to keep them on the Canadian land.

HERE is another problem that is bothering the Department of Immigration. Today there are a reputed 40,000 farmers in Canada who are over 60 years of age, and who have no male heir. What is to become of their farms?

The immigration department is encouraging these elderly farmers to take in a Dutchman, preferably a Dutch family. Then arrange for the Canadian to sell out to the Dutchman. This suggests greater productivity, it gets another family settled, and ensures the older man a more satisfactory and secure old age.

It does not take much imagination to see what oil is doing for Alberta, and can do for Saskatchewan along the western fringe. The oil also removes some land from farming, and encourages dairy farming and mixed gardening to feed these new mushroom towns.

With water power, oil, coal, fish, lumber, as well as other non-cereal items, Alberta is destined to go ahead. It draws adventurers from all over Canada. This creates a vacancy back home for an immigrant. The carpenter who seeks adventure in the oil fields gives place to an immigrant carpenter who cares more about security than glamour.

Lastly, this immigration of American oil men is something special. They come well heeled, with immense know-how, and they seem to "create" money. Just as some economies, like coal, seem conceived in poverty and reared in hard times, oil, on the contrary, exudes an aura wherever it goes. In this case, read "money" for aura. The federal government is sure Alberta can absorb a lot of people yet.

British Columbia has one advantage

(Guide photo.

The Hon. I. C. Nollet addresses the 42nd Annual Meeting of the Saskatchewan Dairy Association. Right: H. Latrace, association president.

that no other province yet possesses. It is bringing people because they want to live there. One of the most densely populated places in the world, Greater Los Angeles, has a civilization all its own founded merely on weather.

British Columbia is the third most populous province, and growing all the time. This will create new markets. Bench lands formerly regarded as worthless, are now worth while if irrigated. Lonely stretches in lonely valleys suddenly become desirable real estate, with a fringe of truck gardeners. The San Fernando Valley, outside Los Angeles, was a desert until a short time ago. Now, between Crosby and the song pluggers, the San Fernando has more population than many cities. Similarly, any valley close to Vancouver is a potential gold mine. In the interior too, such areas around Creston, for 50 years regarded as waste land, suddenly blossom into peach land. In all these ventures, of wresting fruit orchards and farm lands from desert, the immigrant will play his part, the Canadian government thinks.

The Canadian government feels it has made about all the mistakes a country can have in immigration, from the time Sifton brought them here in millions till Bennett started sending them back in dozens.

It has in mind too, that the drain on our best brains to United States must stop. But it won't stop until the country is big enough either to offer equal salaries or equal compensations. It does not figure it can do this by legislation. Canadians are bound to grab those five-figure jobs in the States. But gradually, they hope the trend can be stopped, ultimately reversed.

As a corollary to that, when we export brains, we tend to create a vacuum. Into that steps the non-Canadian. We have de-Canadianized some parts of Canada. While we welcome the stranger within our gates, nobody admits that to lose one good Canadian, and gain one good immigrant, is an equal exchange. The government does not want to see this experience repeated again.

IN peace or war, we need more people. "Use or lose," is a hard economic dogma. If we cannot use Canada, some other country can.

To justify our existence, Canada has to fill up, has to develop. The continuous growth of United States has shown that no country need remain static. This despite the fact that climate may seem against us. But it is noted that, for the most part, the big gains in United States do not take place in the empty spaces, but where there are already plenty of people. Nevada today is almost as empty as it was 50 years ago; New York has doubled population in our time.

The government has realized that people go where people are; they do not go where people aren't. So instead of thinking in terms of strong backs, of desperate aliens for whom it is backwoods or nothing, our officials are thinking today in terms of people who can slip into urban life, whose special skills can be neatly integrated into an already highly populated community. We have turned our backs on the old hit-and-miss immigration. We bring people in with a purpose, we look after them, we see that we do not waste ten years of their lives, nor they, twenty years of ours.

The Countrywoman

I think, when I read of the poet's desire
That a house by the side of a road would be good.
But service is found in its tenderest form
When we walk with the crowd in the road.

—WALTER J. GRESHAM.

THIS is a story of how the women of one Canadian city are organized and work voluntarily to bring added service and comfort to the sick. It comes from Winnipeg, whose citizens have much in them of the pioneer spirit of self help and friendly aid to those in need.

That fine spirit was manifest during war years, when quite on their own, a number of women worked out a plan and organized a Central Volunteer Bureau to co-ordinate and direct the efforts of many organizations and large numbers of eager but unattached volunteers toward many jobs which needed doing. Their plan and its successful working was recognized as having valuable suggestions for other communities. The story of what became known as "the Winnipeg Plan" for volunteers was featured in a movie film, made by the National Film Board, which was widely shown across Canada and at some points in the United States.

When the Red River went on the rampage last spring, Manitobans living along its valley, experienced the worst flood in the memory of those now living. Radio, cable, telegraph, photographic, film and press services carried that story far afield. There was an immediate and generous response in sympathy, materials and funds from the outside. This timely and needed aid was deeply appreciated and long will be remembered. In the early stages, evacuees from small towns and farms flocked into Winnipeg. Then it was realized that the city itself was fighting for its very life to maintain vital services: water supply, sanitation, transportation, radio and telephone communications with the rest of the province and the nation.

There is no proper gauge to measure the volunteer effort that went into the fight against the sieging water. Red Cross disaster services worked alongside municipal helpers, police, armed service men, railway crews, trucking services and individuals, whether those were men, women or youths. It was estimated that over 50,000 citizens, from ten to 70 years of age, worked on dike defences. They came voluntarily when a call went out, toiled long and dreary hours, mostly in the evenings and at night, in spite of mud, snow, rain and chilling wind, to protect homes of their fellow citizens. Though the people of the Red River Valley lost much in a material way in the 1950 flood they, with those who helped, passed through an experience which brought certain spiritual gains which will leave an imprint on their thinking for years. There was: a feeling of unity in a common cause, a sense that no one would be left alone in the dark hour of trial and the knowledge that an all-out effort adds to the dignity and stature of the individual.

The plan evolved, under pressure for immediate action for handling the evacuation of over 100,000 people in a short space of a few days—regarded as the greatest mass evacuation in the history of this continent—had features which could be applied, if the need arises, to other large centers in time of disaster.

THE story now set down is a simpler one, on a much smaller scale but it springs from the same deep well of human kindness. It is a volunteer effort by women, given consistently, with thoughtful planning behind it, growing with the years and capable of still further expansion. It may have ideas which, in a modified form, could be adapted to other and smaller communities where hospital aid groups function.

The capital city of Manitoba is unique in Canada, in that it contains, in its greater metropolitan area, almost one-half of the province's population. Some of its civic institutions serve a goodly portion of suburban and rural people. Such is the case of the Winnipeg General Hospital as 31 per cent of the patients who occupy its 650 beds or attend for treatment come from municipalities outside the city. It is a private, non-profit corporation. It is governed by a board of trustees numbering 28 members with representatives from the province, the city, the University of Manitoba and the Union of Manitoba Municipalities.

Women members of The White Cross Guild add their story of hospital service to Winnipeg's splendid record of citizens' volunteer effort

by AMY J. ROE

There has been a Women's Hospital Aid since 1890—18 years after the Winnipeg General Hospital was organized. Its work has grown and expanded and now includes responsibility for the management of The Convalescent Hospital. In 1945 it was recommended that a new women's group be formed to take over the wide field of volunteer service. The White Cross Guild of the Winnipeg General Hospital was organized the following year by the Central Volunteer Bureau. It now has 590 volunteers enrolled, of whom 245 work weekly, putting in from two to four hours duty daily in 16 departments. In 1950 White Cross Guild volunteers gave 16,254 hours of free service in the Winnipeg General Hospital.

"We first had to prove that volunteers could be a help, not a nuisance in a hospital," Mrs. J. M. Kilgour, the Guild's president told me. "At first the medical staff, nurses and doctors were inclined to regard us skeptically. But one doctor had faith in us and we got our start in the maternity ward. We do the 'Joe jobs' and relieve the staff of many extras and now they accept us readily.

Kathleen Schoenau, Director, The White Cross Guild.

"It is highly recommended, from experience elsewhere, that hospital volunteers work under trained direction. We have a full-time director, Miss Kathleen Schoenau, who supervises volunteer help and is the contact person with the medical and nursing staff. We have been given a room on the sixth floor in the building for use as an office. Matters of policy are referred to the Superintendent of the General Hospital. We have become in actual fact a department of the hospital."

The purpose of The White Cross Guild, as stated in its written constitution is: to stimulate the interests of women, regardless of affiliation, in activities of the Winnipeg General Hospital, that they may help: (1) to promote community interest in and understanding of the Winnipeg General Hospital; (2) to co-ordinate all volunteer service to the hospital; (3) to relieve nurses of simple routine work; (4) to give service throughout the hospital wherever it is needed.

The Guild has a board of directors consisting of 24 members, with special committees set up for each field of endeavor. There is an advisory committee to the Director, consisting of the president, two other members of the Guild, the president of the board of trustees, chairman of the hospital house committee, president of the honorary attending staff, the superintendent of the hospital and the superintendent of nurses.

From what sources are the volunteers drawn? From women whose families have grown and now find themselves with some leisure on their hands and with a desire to do some useful form of work; from women's organizations of all kinds; some private groups such as employees of a large departmental store, who have assisted in hospital work of

(*Please turn to page* 78)

Members placing cards on chart showing the record of the many types of work done by volunteer groups during 1950.

The Easter Parade

Fashion repeats the mood of spring with fresh gay colors, soft flowing lines and changing silhouettes

by **LILLIAN VIGRASS**

FRESHNESS and vitality, movement and color, lead the fashion parade in 1951. Clothes are feminine and soft, yet alive and vibrant. Fresh colors, good proportions and flowing lines accent the "beauty-in-motion" theme of the spring fashions.

Never before have there been so many styles and so many variations to a spring fashion theme. In past seasons one idea or one silhouette was featured in the Easter parade. In a special year there may have been two, but seldom more. This year there are at least six silhouettes to the fashion picture. There is the pyramid coat of full cut, the arched-hip suit, the tunic suit or dress, the trumpet-flare skirt, the sheath dress to dress up or down as the occasion demands, and the side-jutting dress for special occasions. With such variety there is a style just for you—a style especially suited to your figure, to your personality and to your way of living.

The color picture is beautiful this year. The group that will dominate the fashion picture for spring and summer are those especially pretty colors that shade from pale mauve to violet to deep purple. Basic shades are black and navy accented with white and one accessory color whether lime green, mauve or red. Also basic are the warm beige colors varying from the palest complexion tint to pale cream, pinky beige and deep ivory tones and deepening into rosy beige and tan. They are included in a wide variety of ideas, many times plain, often the background for prints splashed with color.

Perhaps newest in the color picture, however, are the fruit-bowl colors—orange, lemon, lime, apricot and peach, with all their variations from the soft, light tints to the bright, the dark and the deep shades.

Among the fabrics that enter the fashion picture now and will carry on through the summer are oriental silk, rayons, nylon sheers and cottons. The oriental silks include pure silk prints, pongee and honan—a plain-shade, pure silk with a heavy thread woven in to form a broken cross design. The rayons are numerous and vary in weight and texture from a tissue faille to a men's rayon worsted material that is similar in appearance to a fine wool suiting. The nylon sheers are lovely this year. They are made to wear in the dark basic shades now, in the pastels later. From May on through the summer, cottons will be the important fabric, with cotton lace leading the rest.

Newest of the suits this spring is the arched-hip suit. A padded hip line accents the nipped-in waist and closer fitting bodice of the dressmaker suit. The rounded-hip effect is achieved with very light, smooth padding or even with rounded-out patch, pouch or tab pockets. The skirt is slim—as are all suit skirts this spring.

The basic dressmaker suit is much in evidence again this year. The classic collar and lapels, the roll collar and the buttoned-front jacket are shown on the new models. Stitched-on patch pockets, diagonal and curved welt pockets and tab pockets with buttons add the necessary detail.

The coat suit with its fly-away shortie and slim skirt is important, too. The jacket is short and breezy with a flare back and loose sleeves that turn back to form deep, wide cuffs at bracelet length.

Coat news this year is of the pyramid coat. It is a full-cut slimly hanging coat with gently sloping shoulders and a close-fitting neckline with or without a collar. The full sleeves may turn back into a deep, wide-cuffed sleeve of bracelet length or are slimmed down to a close-fitting sleeve that can be pushed up to three-quarters length. These sleeves are worn with longer gloves that match or contrast with the costume.

There is a versatility to clothes this spring. Back on the scene is the ensemble. The three-piece outfit includes a light-weight suit and shortie coat, to wear together now, separately for warmer weather. Stoles add versatility to suits, dresses and even some coats. They match or contrast with the costume and can be casual or dressy in appearance. Capes, too, appear with many costumes. They may be fingertip length and serve as a coat or abbreviated to midget size for wear over a suit, a sheath or after-five dress. A dress plus a bolero, cape or jacket, that matches or contrasts, makes a lovely costume for now and later. The new-style redingote shows a full-length silk or linen coat lined with the same material as in the silk dress over which it is worn. The newest and smartest of these coats are pyramid full or nipped-in at the waist with a flowing skirt.

FOR sports and casual wear skirts are slim or pleated. Blouses are plain for a jeweled neckline or of shirtwaist style. Blazers or the coat jacket, a dressier version of the blazer with a half belt at the back or sides or a box back, complete the outfit.

One might say that the dresses this season have gone a little old-fashioned. Back is the low flare or trumpet silhouette of the '20's with its slim-fitting waist and hip line and skirt that flares out just above the knees from godets, pleats or deep gores. It is a slimming line that is easy on the eye and fun to wear. The tunic dress has returned, too. Belted tunics with a rounded hip line over a slim skirt are flattering and new.

The shirtwaist dress has turned elegant this year with rhinestone buttons, numerous pleats or tucks or other special top treatments. It is sometimes topped with the arched-hip jacket, a cape or a bolero. In all cases it is a far more lovely model than the shirtwaist dress of several years ago.

The side-jutting dress silhouette is

(*Please turn to page* 80)

Speaking of Coffee

These delicious coffee-flavored desserts will be a welcome addition to any meal

TO add variety and interest, color and taste appeal to your meals and to win the approval of your entire family serve coffee-flavored desserts often. For coffee's fragrant, refreshing flavor can turn the simplest pudding into an extra-special treat, a plain icing into a delicious topping and an ordinary pie into a new and festive dessert.

It is important to use freshly made coffee at all times, whether left over from the previous meal or made especially for the recipe you have in mind. Make it fairly strong and allow it to cool before using.

An alternative to this is to use the soluble instant coffee that is now on the market. Measure it out—using one tablespoon for each cup of coffee in the recipe—and sift it along with the flour. Be sure to add milk or water to replace the amount of liquid coffee called for in the recipe.

Coffee Blanc Mange

2½ T. cornstarch
4 T. sugar
½ c. cold milk
½ c. scalded milk
1 c. hot coffee
½ tsp. vanilla
Salt

Mix cornstarch and sugar with cold milk. Scald remainder of milk and coffee in double boiler. Carefully add cornstarch mixture and cook over boiling water, stirring occasionally until thick and smooth. Cover and cook 45 minutes. Add vanilla and salt five minutes before removing from the heat. Cool; serve with cream.

Coffee Rice

½ c. rice
2 c. milk
2 c. coffee
½ c. raisins
½ c. walnuts
⅛ tsp. salt
⅛ tsp. nutmeg
½ c. brown sugar
1 c. heavy cream

Cook rice in milk, coffee and raisins in double boiler for 1½ hours. Stir in remaining ingredients except cream; mix well. Whip cream and fold into pudding; reserving enough for garnishing. Spoon into individual dishes; top with remaining whipped cream and half walnuts. Serves six.

Mocha Date Dessert

1 pkg. unflavored gelatin
¼ c. cold water
1 c. hot, strong coffee
⅓ c. sugar
2 T. cocoa
¼ tsp. salt
1 c. sliced dates
¼ c. chopped walnuts
½ c. heavy cream, whipped
½ tsp. vanilla

Sprinkle gelatin in cold water. Add coffee, stir until dissolved. Mix sugar, cocoa and salt; add and stir until dissolved. Chill until consistency of unbeaten egg whites; fold in dates, nuts, whipped cream and vanilla. Pour into mold; chill until set. Unmold; serve with additional whipped cream.

Coffee Cream Pie

¼ c. flour
⅛ tsp. salt
⅔ c. sugar
1 c. strong coffee
1 c. milk
2 eggs
2 T. butter

Mix flour, sugar and salt thoroughly. Add coffee and milk and cook until thickened, stirring constantly. Separate eggs; set aside whites for meringue topping. Beat yolks, then stir in cooked mixture slowly. Cook egg yolk mixture one minute longer. Add butter; pour into a nine-inch pie shell. Top with meringue made from egg whites and ¾ c. sugar. Brown in a hot oven.

Coffee Cookies

1 c. molasses
1 c. sugar
1 c. butter
1 c. hot, strong coffee
3½ c. flour
1 tsp. soda
½ tsp. cloves
¼ tsp. nutmeg
¼ tsp. ginger

Cream sugar and butter until light and fluffy. Stir in hot coffee and molasses. Sift together flour, soda and spices. Add to mixture. Add extra flour, as necessary, until the dough is stiff enough to roll.

Coffee Cake

1 c. brown sugar
½ c. molasses
½ c. butter
½ c. very strong coffee
1 egg
2 c. flour
½ tsp. baking soda
1 tsp. ground cloves
½ tsp. nutmeg
1 c. raisins
1 c. currants

Cream sugar and butter until light and fluffy. Add egg and beat well. Add molasses and coffee together. Sift dry ingredients together. Blend into batter; beat for 1½ to two minutes. Fold in raisins and currants. Bake in moderate oven for 30 minutes (350°F.).

Coffee Butter Frosting

⅓ c. butter
3 c. powdered sugar
⅛ tsp. salt
3-4 T. double strength coffee
½ tsp. vanilla

Cream butter; add sifted sugar gradually and cream until light and fluffy. As frosting becomes thick, add coffee.

Mocha Filling

1 c. hot milk
¼ c. ground coffee
2 T. cornstarch
⅛ tsp. salt
½ c. sugar
3 eggs
1 tsp. vanilla

Pour the hot milk over the coffee and let stand where it will keep hot for ten minutes. Strain. Mix cornstarch, salt and sugar in a double boiler, add egg yolks, well beaten; stir in coffee infusion slowly. Cook slowly until thick. Cool slightly, fold in stiffly beaten egg whites and vanilla.

Surprise your family with this delicious coffee-flavored rice.

Muffin Magic

For perfect muffins every time follow these simple rules

IT is no trick at all to turn out fluffy, tender muffins for Sunday breakfasts once you have mastered the few simple rules of muffin making. Actually muffins are easy to make; after one or two practices they require but a few minutes for the mixing, and they make delicious eating.

Muffins are more than a breakfast treat, however. Served with a dish of fruit, they make a quick and easy dessert for a busy day; they add variety and flavor to school lunches; and it takes only a minute to mix a batch and pop them into the oven when guests arrive unexpectedly for lunch or supper.

The most important rule to follow in muffin making is to stir the batter just enough to blend the dry and liquid ingredients. The maximum number of strokes for mixing is 25, only 17 for the practiced muffin maker. The batter breaks and separates easily when lifted with the spoon and it appears lumpy rather than smooth and cake-like. The top of the baked product is usually rounded and slightly rough. It browns well and has a slightly shiny surface. The muffin is tender, with a medium fine texture and it is almost double its original size.

Overmixing makes the batter smooth and small in volume. It flows more rapidly and it falls from the spoon in ribbon-like strands. The baked muffin may come to a sharp point or peak, its crust is smoother and light in color, the texture much tougher and running up through the center of the muffin are several holes or tunnels.

These tunnels are formed from the steam and expanding gases that cannot escape from the batter. The dough when overbeaten becomes elastic and rubbery. The steam follows the strands upward as it tries to escape, leaving long tunnels. Tunnels may also be caused by dropping the batter from a distance into the pans, by too hot an oven or by filling the pans too full.

Perhaps the easiest and best method to follow in muffin making is as follows: Sift the flour, then measure it. Sift it again with the other dry ingredients into the mixing bowl. Beat the eggs until light and fluffy, add the melted shortening and milk and blend well together. Pour the liquid ingredients, all at once, into a well, made in the center of the dry ingredients.

Stir only enough to moisten the dry ingredients. That is about 25 strokes; 17 for the practiced muffin maker. Grease the pans on the bottom only, so the muffins can "climb" the sides of the pan. Fill each pan about two-thirds full, using two spoons. Spoon up enough batter for only one muffin at a time and hold it as close as possible to the edge as you push the batter into the pan with the second spoon.

Muffins are best baked in an oven at about 400° F. Serve them hot or cold; with butter, with fruit or jelly or with the main course of the meal. They are delicious any way, any time of day.

Basic Muffin Recipe

2 *c. flour*
½ *tsp. salt*
3 *tsp. baking powder*
3 *T. sugar*
1 *beaten egg*
1 *c. milk*
3 *T. melted shortening*

Sift dry ingredients. Combine liquids and pour into dry ingredients all at once. Stir until dry ingredients are moist but still lumpy, about 17 to 25 strokes. Fill muffin pans two-thirds full. Bake in fairly hot oven (400-410° F.) for 20 to 30 minutes depending on the size of the muffins. Makes 18 medium-sized muffins.

Bran Muffins

Substitute 2 c. flaked bran for 1 c. flour in basic recipe. Add bran to sifted dry ingredients.

Graham Muffins

Substitute ¾ c. unsifted graham flour for 1 c. flour in basic recipe. Add to the remaining dry ingredients after they have been sifted together.

Cornmeal Muffins

Substitute ¾ c. cornmeal for 1 c. flour in muffin recipe. Add to sifted dry ingredients.

Grapenut Muffins

Stir ½ c. grapenuts into batter after liquid and dry ingredients have been partially mixed.

Bacon Muffins

Reduce sugar to 1 T. in basic recipe. Add ¼ to ½ c. crisp, diced bacon to dry ingredients.

Cheese Muffins

Reduce sugar to 1 T. in basic recipe. Stir 1 c. grated cheddar cheese into dry ingredients; ½ tsp. paprika or ⅛ tsp. garlic salt may be added.

(*Please turn to page* 78)

Hot bran muffins, rich with plump raisins, add just the right touch to a meal.

The attic seemed alive with people...

IT IS FUNNY how the past and the present can slide together in the shadows of an attic.

That rusty pair of ice skates . . . they take me back to the wonderful winters of my childhood, when brother and I used to skim across Stoner's Pond.

The old-fashioned dress dummy . . . how proud Mother was of her tiny waist. I can still hear her saying, "Remember, fashion is no good unless it fits."

And Grandma's old sewing machine . . . that amazing SINGER with the fancy iron-work and the funny-shaped bobbins. I can see her now, pumping her feet back and forth on the treadle, humming along with the machine. I'll never forget the first dress she made me . . . the gooseberry print with the pique collar.

It seems such a little time ago. Yet soon now, I'll be sewing for my *own* grandchildren — on my own new SINGER Sewing Machine.

Wouldn't Grandma be surprised if she could see it! Such a beautiful machine, with its shining polished cabinet. Not hidden away upstairs in the guest room, but right down in the living room. How amazed she'd be at the way it sews — so easy, it seems most of the time as if the machine is sewing by itself.

And how Grandma would marvel at my SINGER Attachments. They can make buttonholes in minutes . . . and hems, and tricky little ruffles that she used to spend hours doing by hand.

Yes, sewing is certainly much easier today. And it's more fun, too. Of course, Grandma's machine was the very last word in *its* time. But every year SINGER Machines get more and more wonderful. And like Grandma said, "You can always count on them to stand up . . . keep on stitching faithfully year after year."

I suppose that's why SINGER has become a tradition in so many families . . . with every generation discovering all over again what a beautiful, easy way it is to sew.

THE SINGER SEWING MACHINE COMPANY, on this happy occasion of the Hundredth Anniversary of the SINGER* Sewing Machine, takes great pleasure in extending greetings to all its friends everywhere.

SINGER SEWING CENTERS

Berry Muffins

Increase sugar to ½ c. Add ¾ c. blueberries or raspberries after liquid and dry ingredients have been partially mixed.

Raisin Muffins

Stir 1 c. small raisins into batter after liquid and dry ingredients have been partially mixed in either basic recipe or in bran muffins.

Prune Muffins

Thoroughly drain enough chopped, cooked prunes to make 1 c. pulp. Stir into batter after liquid and dry ingredients have been partially mixed.

Mincemeat Muffins

Add 1 c. mincemeat to basic muffins batter after liquid and dry ingredients are partially mixed.

Fruit Muffins

Fill pans half full of batter. Put 1 tsp. preserved fruit in each, top with batter so pans are two-thirds full. Strawberry jam is good as are Damson plums, peaches, apricots, etc.

Marmalade Muffins

Press 1 tsp. marmalade into each bran muffin before baking.

Upside-Down Muffins

Use the basic recipe. In the bottom of each greased muffin pan place ½ tsp. melted butter and 1 tsp. brown sugar. Add one prune or apricot. Fill pan two-thirds full and bake in a moderate oven (400° F.) about 25 minutes.

Nut Muffins

Add ½ c. chopped nutmeats to dry ingredients in recipe for bran muffins.

Lemon Sugar Muffins

Combine ½ c. sugar with 2 T. grated lemon rind. Put enough batter in pans to fill one-quarter full. Sprinkle with sugar mixture, then top with another layer of batter. Fill pans only one-half to two-thirds full or sugar will melt out and make muffins stick.

Orange Muffins

In the basic muffin recipe use only ¾ c. milk and combine with it ¼ c. orange juice. Grate ¼ c. orange rind and stir into dry ingredients.

Cranberry-Orange Muffins

Combine ¾ c. chopped, raw cranberries, 2 T. grated orange rind and ¼ c. sugar (do not let stand or juice will form). Gently fold into batter after liquid and dry ingredients have been combined.

Orange Bran Muffins

½ *c. bran*
¼ *c. milk*
½ *c. orange juice*
1 *tsp. orange rind*
¾ *tsp. salt*
5 *T. fat*
3 *T. sugar*
1 *egg*
1¾ *c. flour*
2 *tsp. baking powder*
¼ *tsp. soda*

Soak bran in milk and orange juice and rind. Beat egg well. Cream sugar and fat. Add beaten egg and bran mixture to sugar and fat. Sift together remaining dry ingredients. Add all at once to liquids. Stir only until moistened. Bake at 400° F. 25 minutes.

Countrywoman

Continued from page 73

one form or another for the past 25 years; from an insurance company's head office—the last two groups work during evenings and week-ends; from young brides coming to the city who, feeling strange or lonely, may find that time hangs heavily on their hands; from churches whose members frequently take sewing jobs to their group meetings; from a girls' sorority; from members and graduates of the Humpty Dumpty Club, with a teen-age membership, which has been in existence for some 25 years; doctors' wives, the latter serving in the pharmacy or in making surgical dressings as it is considered a point of hospital good public relations that they do not work on the wards.

The volunteers provide their own uniforms, a pale blue smock with the White Cross insignia on a breast pocket, and launder them. Last year 44 volunteers per week did three-hour ward duty daily in the five semi-private wards under the direction of the nursing supervisors, doing many things to lighten the burden of the nurses. They arrange flowers, on occasion feed patients or read to them, distribute mail, help make up trays, do messenger service to all parts of the hospital, assist in the discharge of patients and keep check on visiting hours.

One group, limited to those who have taken a home nursing course, composed of 34 from St. John Ambulance, three from the Red Cross and one V.A.D., work on the wards as nurses' aids. They help to make patients comfortable, change beds, do rubs, prepare special diets, take temperature, pulse and respiration and chart them. Sometimes they are called upon to sit with a patient coming out of anaesthetic. In view of the existing shortage of nurses this is regarded to be an especially important service.

EACH week six volunteers do a three-hour shift daily in the physiotherapy department, where, under the guidance of the therapists, they assist with simple procedures such as helping arthritic sufferers with their baths and giving a hand to those who are using gymnastic equipment. Three volunteers work for three hours, three days a week, in the out-patient department, assisting those who are providing free medical service to those in need of it. This most frequently means conducting patients to various departments for x-ray and other tests.

Ten volunteers provide two workers in the pharmacy for two hours daily

in a five-day week, filling capsules and pasting labels on boxes and bottles, which means that medicines can be speeded on their way to waiting patients. Six groups, totalling 80 volunteers, work at making up surgical dressings—a basic item in hospital services. With materials supplied, 22 volunteers every week work at sewing pyjamas, babies' kimonos, hot water bottle and ice cap covers. Another 10 volunteers in sewing meet every second week to sew and knit articles which will be sold through the travelling shop.

In the spring of 1950, during the flood period when there was a fear of typhoid fever, an inoculation center was set up in the Winnipeg General Hospital. There 69 volunteers enlisted and 22 of them worked for a four-hour period each day for three weeks, giving a total of close to 2,000 hours of service in the emergency clinic.

A LIBRARY service is one of the oldest of the volunteers' projects. Five carts, laden with books and current magazines, are wheeled twice a week to every ward in the hospital. From the cart, patients may select what interests them and have the use of books and magazines free of charge. During the past year nearly 5,000 books and over 6,000 copies of magazines were thus lent to patients, helping them get some release from the tedium and tension of a stay in bed.

The newest idea originated by the White Cross is the "travelling shop." This is a show-case type of cart which is pushed by volunteers and travels each day to a different part of the hospital. In this shop on wheels are displayed items which the patients may wish to purchase, and find a certain satisfaction in doing so. They include: writing paper, ink, razor blades, cigarettes, candy, soap, pipe cleaners, hand-knitted babies' clothes, stuffed toys and dolls. Patients seem to enjoy the visit of the shop and its cheerful attendant. The "shop" has proven to be a financial success.

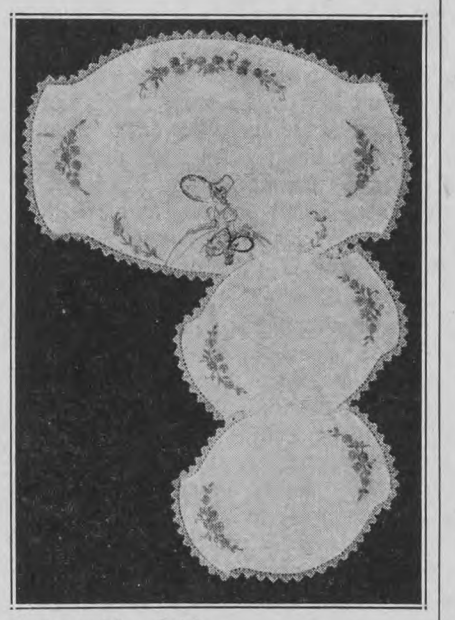
In the main, it is the younger women who work on the wards and have the job of pushing the carts from ward to ward. The interest of young people in the city's hospital is regarded as important. The Humpty Dumpty Club, having as members 60 high school and first year university students, who have wanted to work for the hospital, send two volunteers each Saturday morning. For two hours they read to or play with convalescing boys and girls. They have a store of toys on hand for such occasions. Each year they put on a Christmas party, giving gifts of candy and fruit to all the children, including those in the out-patient department. The help of groups of girls in three of Winnipeg's schools was enlisted in making 1,000 candy boxes for patients' trays at Christmas.

In addition to all these types of service rendered the White Cross Guild has made gifts to the hospital. These to date have been: a deep-freeze bone bank, parallel bars to the physiotherapy department, a $500 contribution toward medical research, two hummidicribs for use in care of premature babies, and three pairs of scales to the maternity ward.

It takes considerable money to finance the organization and pay a full-time director. In its first year of operation the White Cross conducted an auction sale, inviting members and friends to donate articles of any kind for sale. An auctioneer gave his services free. In 1949 the Guild sponsored a special showing of an English movie, Red Shoes, charging a nice fat ticket price to those who were willing to support this charitable and worthy effort and enjoy a good evening's entertainment, and as a result made a sizable profit. In 1950 the Guild co-operated with the Winnipeg Patriotic Salvage Corps and collected rags. Movie picture houses co-operated by granting free entrance to a picture showing on a Saturday morning to any youngster who brought along a bundle, large or small, of rags. Truck drivers and business firms helped by transporting the haul, free of charge. A tidy profit of $2,100 resulted from a 45-ton collection of rags, old mattresses, awnings, burlap, rugs and even felt hats.

It seems that the price of all kinds of fabrics, even old rags, has about doubled so the White Cross is to launch another "rag collection" starting in April. With a strong demand for wool, old cotton and felt in machine shops, paper making, for roofing materials and many other fields, the Guild is confident of the success of this new campaign. It is extending the appeal to the whole province, offering a split in local collections to other hospital aids who may wish to get in on it and so support a useful cause and probably make a tidy sum for their own institution. The Manitoba Truck Drivers' Association will co-operate by transporting the collections, free of charge, to Winnipeg. You will be hearing much about this campaign when it really gets under way.

Crinoline Girl Vanity Set



Design No. 869.

The Crinoline Girl has always been a favorite motif with needle workers. This one carries a pretty basket of flowers and the same flowers are used in garlands along the edges. The design is No. 869, stamped on nice quality fine white Irish linen, price 75 cents. Threads are 20 cents extra. Address orders to: The Country Guide, Needlework Dept., Winnipeg.

The Easter Parade

Continued from page 74

meant for dressier occasions. The dress is slim and the side jutting may be a swirl of added material at the side, a pouchy pocket that is as evident from the back as from the front, a cascade of drape of matching or contrasting material, or a narrow skirt looped up and fastened with a cluster of flowers or a rhinestone pin. The bodice accents the off-center effect with a side drape, flowers or a novelty pocket effect.

The sheath dress has remained from last year; it is so versatile. For dress-up occasions add a lace overskirt, a side-draped peplum or a taffeta pinafore; for afternoons a jacket, a cape, a bolero or a stole; at other times white collar and cuffs, a peplum or a belt.

And to top this year's fashions hair styles are longer. Hats are made to show off the longer hair styles and to let the chignon cluster of curls or bun peak through at the back.

The straight-on sailor is fashion's first choice in hats. For more dressy occasions the rippled-brim bonnet is lovely. The small profile hat that swings to one side a bit, the small pill-box and the Chinese coolie hat are also popular. Of felt or straw, they are gay, flower bedecked and pretty. Hats are worn straight on the head this year and come to about the hairline in the front, giving a slightly forward movement.

Oversized earrings, whether button, drop or shaped to the ear are again in the fashion picture. The new necklaces are especially styled to the popular lower necklines. They take the form of a throat-hugging chain with emphasis on the frontispiece with its large cluster of stones or medallions. Chokers are still popular with jeweled-neckline blouses, sweaters and higher necklines. Bracelets are heavy and often worn over the glove to accent the bracelet-length sleeves. Glamour pins, unlike earrings and necklaces, are fragile-appearing. They are of medium size and take the form of dainty sprays or clusters of pearls.

THIS year flowers are worn with almost every costume. Violets top the list, followed by roses, carnations, lilacs and lily of the valley. It is not surprising to see these flowers take on new and unreal colors such as pink lilacs, green carnations and black velvet roses. Small scarves and small, new novelty ties can be worn at the neck of a suit. They are held by a pin or by spring's very important flowers.

Gloves are longer to meet the bracelet-length sleeves and push-up coat sleeves. Handbags come in leather, suede and fabric. They are definitely oblong in shape this year whether they are of the pouch, satchel or box type. Shoes are dainty; many are two leathers or a fabric and a leather and some are brightly colored. Hosiery is lighter in color but it has a warmth to it and the new fudge and peach shades blend very well with the new spring colors.

With the change in costume colors this year women are going back to lighter, more feminine make-up. The dark tan complexion of past seasons is out and make-up is prettier, more feminine and more ladylike. To complement the new spring colors stylists have removed the purple tones in make-up and have put more orange in the coloring for lips and cheeks.

Easy to Wash

Items that affect soiling of fabrics

by **MARGARET M. SPEECHLY**

IN every wash, some articles are easy to get clean, while others are much more trouble. A lightly soiled slip, for instance, comes clean with practically no effort, but junior's play clothes with dirt imbedded in the seat and knees are a much tougher problem.

The difference is due not only to the amount of soil but to other things that affect the way dirt or grime clings to a garment. The kind of fibre used in the construction of the fabric has an influence on the ease with which the cleaning can be done. The fibres are the tiny strands that make up the yarns. Pull out a thread, take it apart and you have dozens of fibres.

If you could look through a microscope at man-made fibres such as rayon or nylon, you would notice that they are long, smooth strands. This is one reason why fabrics made from these chemical fibres wash like a dream; the dirt fairly falls out of them.

In contrast, natural fibres such as wool, cotton, and linen are less smooth. Under a powerful lense, the tiny wool fibres look kinky and are covered with scales; cotton has a distinct ribbon-like twist; linen has joints at intervals.

These features are of great value to the manufacturer of textiles because they produce desirable effects, but they also have a definite influence on the way dirt is picked up and held during wear.

Even among materials made from chemical yarns there are differences in the amount of soiling. In order to produce soft textures, manufacturers cut the long, sleek strands into shorter lengths before spinning them into yarns. This means there are more ends to gather soil. You can see the fuzz by holding the cloth to the light.

An important feature of rayon and nylon is that they give up stains readily. This is due to the dense, compact construction of the fibres which keeps them from absorbing moisture. Since most common stains are carried by moisture, they do not penetrate chemical yarns deeply.

THE way that fibres of any kind are made into yarns has an influence on the ease of washing. If they are twisted loosely, they give up soil more readily than if they are tightly spun.

Junior's knitted cotton or woollen underwear is purposely made from loosely spun yarns so that it can absorb perspiration readily. Under ordinary conditions the soil washes out easily.

His overalls which are constructed of heavier yarns, tightly spun and firmly woven, protect his underwear from grime. The material is not hard to wash if the dirt remains on the surface, but once it becomes embedded it is more difficult to dislodge.

Weave is important too on washday. As a rule the simpler the construction, the easier the material is to get clean. For sheets and pillow cases which need to be strong and smooth, a plain weave is used. If the yarns are well spun from long fibres, rather than short ones, the surface remains clean for longer and is easier to wash.

A twill or diagonal weave is ideal for denim because it produces a firm, tough fabric that resists soiling. However, once it gets badly soiled, it is harder to wash than a plain weave.

Nubby surfaces and novelty weaves pick up particles more readily than smooth surfaces, no matter what kind of fibre is used in making the material. Napped flannels and cloth with a pile or brushed surface tend to collect dust.

An open weave such as is found in curtains or organdy yields up soil more quickly than the closer construction of flour sacking. Terry towelling is less trouble to wash than the old-fashioned huckaback.

All this points to the importance of preventing any fabric from becoming oversoiled. Frequent changes mean a larger weekly wash but they are a real economy because things last longer and there is less mending.

When any part of a garment becomes heavily soiled, it will be easier to clean if melted soap is brushed on before it goes into the washer. This helps to loosen ingrained dirt and does away with the need for rubbing which definitely shortens the life of the article.

The job of removing dirt can be greatly simplified by your choice of laundry products. Regardless of the claims on the outside of packages, there is no single brand that washes everything to perfection.

Silk, woollens and other fine garments need the mildest soap flakes or a light-duty synthetic detergent if they are to be thoroughly cleansed with safety. But for the bulk of the family wash you require a different product. A good brand of soap flakes or a heavy-duty synthetic detergent is necessary to do a good job.

Cleansing power is something that you personally need to search for, because the laundry situation varies from home to home. In choosing suitable products, you will have to take into consideration the kind of dirt to be removed, the degree of soiling, the fibres and the weave of the cloth, the water supply and the temperature of the wash water.

No product on earth will do a good job if a garment holding protein soil such as perspiration or blood is plunged into hot suds. It first must be treated in cool water to soften the protein. Regardless of what soap you use, stains may never come out if they are not removed before washing.

One of the most interesting developments in the world of textiles is the use of finishes that resist soiling. By first treating the yarns with synthetic resins, the materials are stronger, more resistant to shrinking, creasing and soiling. The best processes last for the life of the garment through repeated washings.

When shopping for garments or yardgoods, look for labels that give facts about fibres, probable shrinkage, and resistance to fading. Labels should also state whether the material should be laundered or dry cleaned.

Spring -- Time for Beauty

Overcoming winter doldrums for better skin and improved figure

by **LORETTA MILLER**

IN spite of an occasional wintry blast, spring is just around the proverbial corner. How have you fared in good looks this winter? Has an over-abundance of heavy eating and too little activity left their mark on your skin and figure? This sometimes happens to the wisest of us, try as we may to keep ourselves lovely. Complexions seem to get sluggish and figures acquire too many curves. The answer to the usual springtime beauty problems is simple, though the following through requires time.

Dull complexions are not a sign of age, neglect, or anything else except wintertime doldrums. It's a combination of many things that contribute to make the facial skin unattractive, and it's a combination of many things, too, that will brighten it. First, thorough scrubbing with a complexion brush will not only help remove dinginess from the pores, but it will stir up circulation so that the skin will appear fresher and more "alive."

The bristles of the regular complexion brush are just stiff enough to deal firmly though kindly with most skins. If the brush seems too soft for your skin, try using your hand brush, after first letting the bristles stand in warm water for a few minutes. (This will soften the bristles just enough for use on face and throat.) Then lather the brush well and scrub upward over throat and face. Scrub over your chest, too, in order to keep the skin soft and baby-like. Scrub in small circles over your throat and underchin, working well along your jaw line. This stimulation works directly on the muscles and helps prevent and correct slightly sagging contours. After you have scrubbed over lower facial contours, rinse off all soap and run your fingers over the newly cleansed area. If it feels the least bit "bumpy," due to hidden or under-the-skin blemishes, lather the brush again and repeat the scrubbing. Work more gently over the upper facial contour, using small circular scrubbing movement around nose and eyes. Close your eyes and ever so lightly scrub over the lids. Be sure to scrub over the temples and forehead.

At the very first sign of a line, get out your brush, lather it well and help erase the line. Frown lines that come at the end of a busy day can be completely erased by stirring up circulation through that region. Do not let these lines accumulate or get deeply etched into the skin, for then no amount of scrubbing will remove them. Little lines that sometimes appear from lower lip downward, and over the underchin, after a lengthy session of sewing, knitting, reading, or any position that holds the chin tilted downward, can be erased immediately by proper scrubbing. If this happens to you, do not go to bed at night without first arousing circulation through that area. It is the stimulated circulation caused by the scrubbing that actually does the trick of removing these unattractive surface lines. Scrubbing will not remove these lines, once they get established. All soap should be rinsed from the skin after each scrubbing and a light film of greasy cream smoothed over the scrubbed regions.

Talented Yvonne De Carlo, Universal Pictures star, illustrates good complexion care.

Much has been written about proper eating for lovely skin, and this, of course, is correct. Since almost every individual has her own eating habits as well as beauty problems, it's difficult to lay down hard and fast rules for everyone. It is not alone one's eating habits, but rather the combination of eating, skin care, and daily habits that combine to encourage unattractive or attractive complexions.

If daily habits keep a woman active for many hours through the day, and especially if one spends many of those hours out of doors, the diet must of necessity include more starches and heavier foods than the diet of one who sits indoors most of the time. The average housewife who cares for a family of four will find few figure problems if she has a normal diet. This is due to the indoor and outdoor activity necessitated by caring for such a family.

The young girl who moves about slowly, who spends hours in school or over her homework, and gets very little outdoor activity, will do well to include an abundance of salads, fruits and vegetables, together with a minimum of starches such as potatoes, bread and plain pastry. When one's days are extremely active, starches must be included in the diet, together with a moderate amount of meats, cheese and eggs. Both starch and protein furnish "fuel" that is much needed by an active body.

SPRING is the time, too, when one seems to have a natural desire for fruits, salads and vegetables, so by all means include them in your daily diet, regardless of your wintertime eating habits. And no matter what your diet, be sure to drink enough good fresh water every day.

It is not in my province to recommend strict health measures, but it is my belief that the juice of half a lemon, or a whole lemon, taken in hot water the first thing every morning, is a beauty as well as a good practical health practice. If and when this is taken, it should be done the first thing in the morning, immediately after brushing your teeth. Lemon juice seems to "tone" the system, and it certainly does make one feel a bit awake. This should be taken without sugar.

(*Please turn to page* 84)

Styles for the Modern Miss

No. 856—Pert two-piecer with a princess-fitted jacket and a full gathered skirt. Have it in a soft pastel or a bright check accented with black velveteen collar and cuffs. Sizes 9, 11, 13, 15 and 17 years; 31, 33 and 35-inch bust. Size 13 requires 3⅝ yards 39-inch material; ¼ yard contrast. Price 35 cents.

No. 851—Tiers of tucks on bodice and skirt add interesting detail to this easy-going little frock. Try it too with contrasting accent on collar and cuffs. Sizes 9, 11, 13, 15 and 17 years; 31, 33 and 35-inch bust. Size 13 requires 3⅞ yards 35-inch material. Price 35 cents.

No. 850—A frankly feminine two-piecer featuring a soft shoulder line. Ruffles may circle the collar and sleeves or a deep one may flounce right round the bottom of the skirt. Sizes 9, 11, 13, 15, 17 and 19 years; 31, 33, 35 and 37-inch bust. Size 13 requires 4⅝ yards 39-inch material. Price 35 cents.

Hollywood Fall and Winter Fashion Book—Contains almost 200 styles suitable for every occasion. Every pattern shown contains a complete sewing chart. Price of book 35 cents.

Hollywood Sewing Book—A complete course in sewing. Contains step-by-step instructions for making a garment in the quickest and easiest manner. Price 25 cents.

HOLLYWOOD

BILINGUAL PATTERNS

No. 855—The new dog-collar neckline is featured on this youthful frock. Pattern also includes a square neckline. Sizes 9, 11, 13, 15 and 17 years; 31, 33 and 35-inch bust. Size 13 requires 2⅞ yards 39-inch material; ⅝ yard contrast; 1½ yards edging. Price 35 cents.

No. 853—A good-looking, easy-to-wear style for the clothes-conscious woman. Dress buttons all the way up the front, has two pleats in the skirt and a whole line-up of tucks on top. Sizes 12, 14, 16, 18 and 20 years; 32, 34, 36, 38 and 40-inch bust. Size 16 requires 3⅞ yards 39-inch material. Price 35 cents.

No. 859—Accent on white—or whatever color you prefer. Here's the perfect design for fabric combinations. Sizes 9, 11, 13, 15, 17 and 19 years; 31, 33, 35 and 37-inch bust. Size 13 requires 3 yards 35-inch material; 1⅝ yards contrast. Price 35 cents.

No. 858—A Peter Pan dress to be made in one of the very feminine nosegay prints or in a dashing window-pane plaid. Sizes 9, 11, 13, 15 and 17 years; 31, 33 and 35-inch bust. Size 13 requires 3¼ yards 39-inch material; 1¾ yards trimming. Price 35 cents.

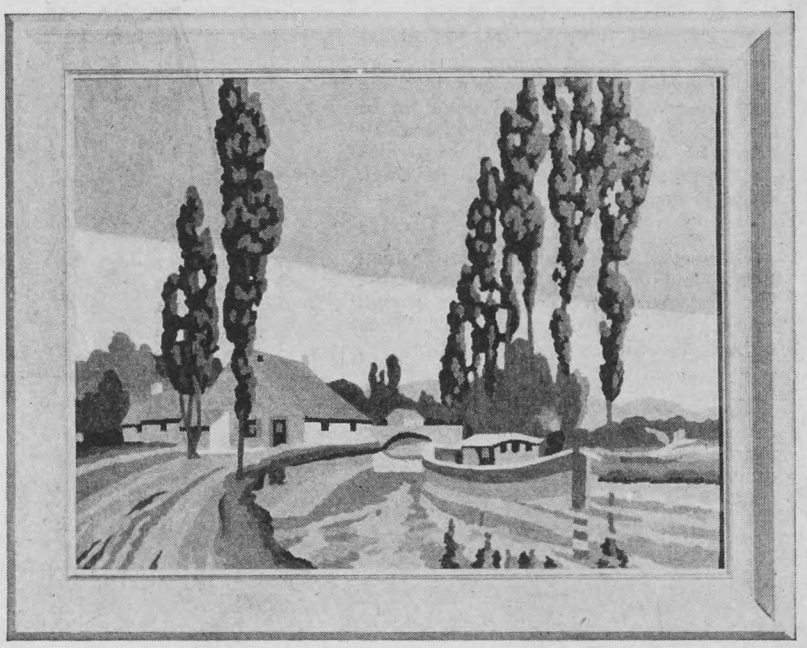
Be sure to state correct size and number of pattern when ordering.
Write name and address clearly.
Note price of each pattern.
Address orders to the Country Guide Patterns, Winnipeg, Manitoba.

Time for Beauty

(*Continued from page* 82)

The beauty of the feminine body depends upon its curves! But when these curves take on unattractive shape it is high time to do away with the too heavy outline. Your beauty editor knew a young girl who waited until the first spring-like day to start her diet. When that day arrived she literally cut her diet in half, took twice as much exercise and walked twice as fast as usual. And since it has been agreed by medical authorities that most of us eat twice as much as we should, the cutting in half of her diet furnished just enough food. And because almost everyone slows down in winter, walking twice as fast seemed to put her back to her normal pace. Going from a cool outdoors to a house that is generally overheated, often causes one to slow down, too, so by stepping up her exercise routine, she was really normalizing her daily activity. This young girl followed-through her spring plan for many years and is probably doing so today though she has moved to a far-off city.

It is both practical and smart to maintain one's figure if not her actual weight. Before starting on your spring and summer wardrobe, try to get your figure just the way you want it before taking your measurements or being fitted. Then once you are satisfied with your weight and measurements, you can maintain it this very simple way: Plan to go on a liquid diet one day each week. Set aside the same day each week, then don't let anything upset your plans. On that day start with a glass of hot water in which you have squeezed the juice of one lemon. Then have your usual beverage. An hour or so later, if you feel the need of nourishment, have a glass of milk or fruit juice. Repeat this as often as you wish during the day. If you simply must have something more substantial, eat a few raisins. A liquid diet one day each week will actually keep your figure just the way you want it.



Paint Oil Pictures

Here is an interesting hobby—pictures anyone can paint

by **FLORENCE WEBB**

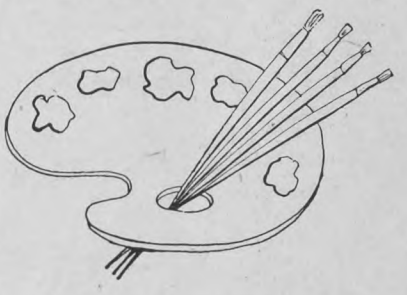
You can be an artist and paint in oils the first time you try. That sounds impossible but here is how you do it. We send you a 12 by 16-inch canvas marked off in numbered areas. In the kit there are capsules of oil paint; each capsule is numbered to correspond with the numbered area on the canvas. There is also a brush. So, open a capsule; find the number of the capsule on the canvas and fill in that area with the oil paint. Just that —nothing more . . . and a handsome oil picture, ready to frame and enjoy, is the result.

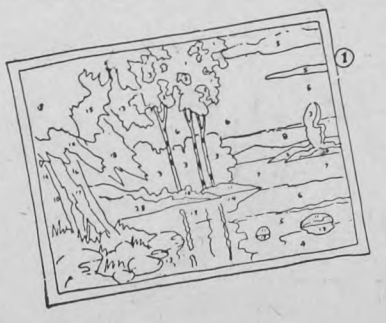
There is one small rule to remember—the paint should be mixed with a toothpick when the capsule is opened because over a period of time the oil does come to the surface.

We have illustrated the CANAL BOAT canvas. CANAL BOAT is No. N-100. We can also send you an interesting COLUMBIA JAYS canvas which is quite different in design and color but the same price and size.

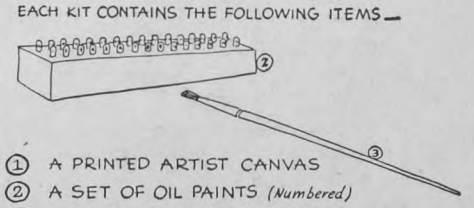
COLUMBIA JAYS is No. N-101. Price is $4.10 each, which includes 15 cents for postage and wrapping.

Address orders to: The Needlework Dept., The Country Guide, Winnipeg.





EACH KIT CONTAINS THE FOLLOWING ITEMS—



① A PRINTED ARTIST CANVAS
② A SET OF OIL PAINTS *(Numbered)*
③ A SPECIAL ARTIST BRUSH

The Arnold Legacy

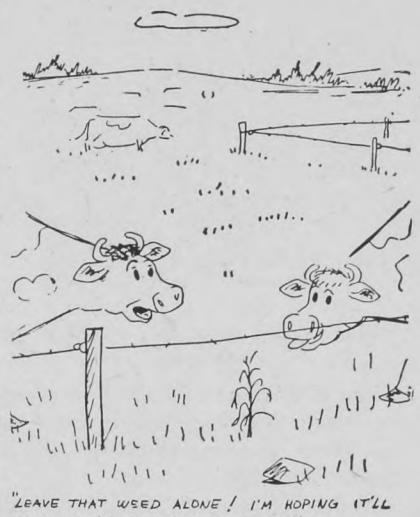
Continued from page 15

"Mr. Tregor wants to look over the mine tomorrow morning, Mr. Wayne. I'll see you again then."

After all those years, she would not invite him in and talk a few moments at least!

"I'm rather tired," she explained, seeing his dismay.

Standing against the gateway lilacs that were a frame to her girlish body and loveliness of feature, she brought



"LEAVE THAT WEED ALONE! I'M HOPING IT'LL GROW UP AND SHORT THE FENCE"

back in vivid, incarnate form, the yesteryear when their affection had been mutual. Though he stood watching her as she went up the steps and entered her old home, she did not look back.

AT the cabin Jim was sitting head in hands on his bunk, in a brown mood. In the boarded-off kitchen the Chinese cookee was shuffling about, getting supper.

One corner of the cabin was fitted up with stone chemical table, electric furnace and other apparatus. In their spare time Wayne and Jim worked out the weekly assay-sheets for the mine. Lacking money to keep a professional man, they had been forced to do it.

Jim looked up when Wayne entered. For several minutes neither man spoke.

"Say something, Wayne, for heaven's sake!" Jim burst out.

"What is there to say?"

"I guess there's nothing—nothing that would do any good. Did she tell you anything about their plans to get married?"

Married! Good heavens, was she really engaged to Tregor?

He wet his dry lips. "She told me nothing Jim."

"Well, Tregor dropped a remark to me. Meant he'd be staying at the bush Ritz till he and Nancy go to Victoria. In July, it's going to be."

Wayne caught desperately at a slender hope.

"He might have said that for my benefit, Jim."

"How's that?"

"To make me believe I'm frozen out already. I'm fighting—till I see there's no use."

Jim grounded a cigarette under his heel.

"I wonder if old Polonius could have had anything to do with this affair?"

"How so? He was always friendly to me. Liked me. He never said anything when he saw Nancy and I were going together a lot. He left the whole works here in my hands, even to attorney power over the money. You can't put the blame on him; it's her choice."

"I've seen raw deals," Jim said angrily. "But nothing to compare with this one."

"There was no promise between us, Jim. I left her free."

"But good Lord, look at these four years! Three different times you could have gone out on a whopper of a salary. Or you and I could have free-lanced and made a killing somewhere. Instead of that you stuck here, slaved like ten men, didn't even take mill-hand wages, kept that damned old rock-quarry running for her sake.

"Then she comes back and says: 'Meet my friend Mr. Tregor.' If she doesn't know what you've done for her, she ought to be told. And I'm willing to tell her."

"YOU'LL tell her nothing, Jim. I want you to promise that here and now."

"Why not?"

"It would put her under obligation to me. If she knew the truth, she'd feel she had to marry me as part of a bargain. I made the sacrifice on my own hook, without her asking me to. I've got no lien on her, Jim. She's free to make her choice. She's got to remain free."

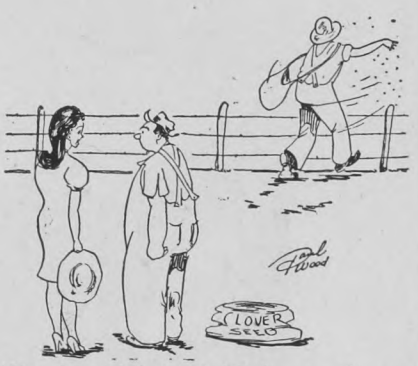
Jim thought it over scowling.

"I guess you're right," he said slowly. "I can't see any way around your argument. It'd be forcing her hand, and you wouldn't want her that way. I'll promise."

When Nancy and Tregor came up to the mine the next morning at ten o'clock, Wayne was busy with a knotty problem at the mercury-distil retort. He quit the job at once.

Nancy's hand lay lightly on Tregor's arm, as if she meant him to be her escort. But Wayne meant otherwise. His fighting blood was up. In her estrangement toward him, in the coldness of her blue eyes, he realized that he was faced with a more bitter fight than ever the mine had given him.

"We'll begin at the beginning," he suggested, taking her by the arm and leading her toward the tunnel mouth.



"But he told me he'd be on the air all afternoon, broadcasting!"

They went back into the shaft to its three-pronged head and watched the "Stone-hogs" drilling. They came out again, following three ore-carts, and watched the rock-breakers grind and crunch the lumps of hard rock to fragments the size of a walnut. Following the overhead traveller that took away the crushed ore, they passed next into the stamp-room.

One battery of five 700-pound hammers, at 20 strokes each minute, was beating out its monotonous, heavy rhythm, crushing the rock-fragments

When Writing to Advertisers Please Mention The Guide.

to powder beneath the mighty blows. The overhead traveller delivered a constant stream of rock to the stamp-head; a high-pressure spray of water played upon it between strokes; every half-minute a rocker-arm tripped up, and a tiny batch of mercury fell under the hammer, to amalgamate with the free gold of the powered rock. From the inclined plane of each stamp-head a trough deep with copper riffles led away. In these sluices the heavy amalgam was caught, to be removed at intervals.

AT the other five-unit battery Dorval, with a gang of men, was hard at work fitting new iron shoes beneath the heavy hammers. He did not stop his work or look up, though the men nodded respectfully to their boss.

He led them lastly to the mercury-distil retort and explained to Nancy the final step in extracting the pure gold. He had found out already that Tregor was no tyro at the business. He was quick and shrewd to size up the mine; he smiled at some of the queer contraptions which Wayne and Dorval had rigged up in lieu of costly machinery; he made several sensible suggestions here and there for minor changes.

If his manner had been a little less confident and masterly, or if he had uttered a word of praise for the mine's efficiency, Wayne would have respected him more.

"We'll go to the office now," he bade Wayne. "I want to see the assay-sheets and the statements."

He demanded it as coolly as if he were owner of the mine, asking a subordinate for the accounting.

In the office Wayne met something which angered him all through. His office manager, Frank Hyacinthe, had always seemed to him loyal enough—inclined to snoop a bit in other people's affairs, but efficient with his work and a valuable man. This morning however he gave his superintendent a cool nod, but bowed and scraped to Tregor.

It was easy enough to see through Hyacinthe. He was looking out for his own interests. He had seen how the land lay and who probably would be his future boss!

At Tregor's request he bustled about like the sycophant he was, bringing the assay-sheets, the quarterly balance and the wage ledger.

WHILE Tregor was glancing through them, Wayne drew Nancy aside. They stood at a window looking out over Lac Valleria to the snow-capped range rising from its western shore. From the window one could count thirty snowy peaks along the western range, and four glaciers reaching their ice fingers down toward timberline. Leagues of primitive forest—fir and cedar and hardwoods—stretched to the horizon in every direction.

A shaft of sunlight streaming through the skylight glowed on Nancy's brown hair. The softened silhouette of her forehead, lips and throat was maddening. Poignantly Wayne remembered the time, just before she left, when he and she darted across the lake in a birch canoe and climbed the highest peak, coming back in the twilight of the long June day.

He reminded her of that day, and watched her intently. She would not look at him as she answered:

"I don't remember it, Mr. Wayne."

"Nor the ring I cut from a birch marl and put on your finger?"

"No."

"Neck all you want . . . you'll get no new hat!"

She did remember! No girl would have forgotten that day. It had been his most precious memory during those four lonely years. She was deliberately ignoring that past intimacy out of existence.

She led the talk to her father—a safe enough subject. Her attitude there was a thing to marvel at. A wider acquaintance with men should have opened her eyes to her father's real nature. But instead, his tragic death and the perspective of years had built up an ideal more powerful than she had held for him alive.

It was like her notion of the mine itself. She thought it a thing of gold, when it was little better than a hard-rock quarry!

In a way Wayne understood why she cherished the ideal. She had been motherless. For more than eighteen years she had been under the dominance of her father. Where a son would have rebelled against his overlordship, the daughter had accepted it. He had been the most powerful influence of her life. In the light of that, her reverence and idealization were understandable.

That ideal must be shattered some day, just as her ideal of the mine was certain to be.

Tregor stepped across to them finally.

"YOU probably don't want to listen to tiresome business details, Miss Arnold, when you can be looking at a scene like that. If you don't mind, Mr. Wayne and I will talk for a few minutes."

She nodded. Wayne went with him to the desk.

"If your assay-sheets are anywhere near correct, Wayne, you've been letting a lot of valuable by-products go to waste around here."

"How about the equipment to save them? It costs money that the mine hasn't got."

"You could have borrowed it. The products would have repaid it twice over."

"Borrow on what? I couldn't raise a nickel on that vein. Besides being poor stuff, it might be exhausted any day. You know the truth about this gold mine now, as well as I do."

Tregor tossed the assay-sheets aside and picked up the wage ledger. His intentions were plain enough. He was trying to find some issue where they deadlocked. He wanted to show who was boss now of the Arnold mine.

At the top of the wage ledger was "*Stephen Wayne, Superintendent.*" A row of zeros streamed across the page, broken at rare intervals by entries of twenty or thirty dollars. Tregor paused a moment, his pencil on that line.

"I suppose that posting is fact, Wayne."

"You might ask Hyacinthe. He handles all the money."

"But why?" Tregor queried, his pencil pointing to the zeros.

Wayne looked up and met his searching stare. Tregor knew that the mine had been quivering on the brink of bankruptcy, and that a decent salary for its superintendent might have shoved it over. He knew also why that salary had been turned back during the four years.

INSTEAD of showing a man-to-man esteem for the sacrifice, Tregor was grinning about it. His flaunt, his air of triumph, destroyed the last vestige of Wayne's respect for him.

"But why?" he repeated.

"You might ask Nancy Arnold!" Wayne whipped back. "Unless you're afraid to let her know the truth. I'm not ashamed of that page!"

Tregor went quickly to his next point.

"You're paying your workmen at least ten per cent higher wages than the average mine."

"And they're doing me ten per cent more work than the average crew."

"You can't prove that—"

"Besides, it's only decent treatment after the way they stuck by me. Take a look at last December's posting. They didn't get paid for six weeks."

"The point is," Tregor tapped the desk, "most of them are married and live here. They'll have to take the cut. If any man doesn't keep up to his present standard, he can be fired off the job. That wage-sheet has to be clipped. It means a thousand dollars more profit a month."

"I don't agree to that!" Wayne said flatly. "While I'm superintendent here, wages stay where they are."

The deadlock had come!

Tregor got up, stepped over to Nancy and brought her to the desk. Wayne rose to face the crisis.

"I'm sorry to bother you, Miss Arnold," Tregor said politely, "but Mr. Wayne and I have had a little disagreement. You own this mine; I believe the decision lies with you . . . Wayne, you can state your case."

"That won't take long," Wayne answered bluntly. "I've been here six years; I know all my men personally. I think they're getting no more than they earn. I could argue an hour and not say more than just that. It's a matter of opinion. It boils down," he added pointedly to Nancy, "to a question of whose opinion is the more valuable in your estimation."

Nancy would not meet his eyes. She looked away from him, out of the window. Shrinking, probably, he thought, from an unpleasant thing—from a stark, face-to-face decision.

She was saved from the pain of deciding then and there. The office door flung open; Dorval hurried in.

"There's a hung charge in the tunnel head, Wayne. The men are afraid to tackle it. Can't any ore come out till we fire the cussed thing."

Wayne waited a moment for Nancy to make her decision. But she did not speak. Unmistakably she felt a glad relief.

"I know you want time, Nancy," he remarked, picking up his hat. "Shall I come to your house this evening and hear what you've decided?"

She shook her head. Tregor grinned covertly at him as he turned to follow Jim out.

TO BE CONTINUED.

"Flu Patient's Lament"

Oh cold that visits us in spring,
You are a most unlovely thing!
Our eyes are blurred, and throats are scratchy,
Chests are sore, and we are tetchy!

We smear ourselves with rubs and dope
With temperatures we try to cope.
There's lozenges of penicillin
And lacy jackets to be ill in.

Our knees get weak, and muscles ache,
We get a chill, begin to quake.
We're much afraid we might succumb!
And then get feeling very glum.

We worry next about insurance,
Unpaid bills and lost endurance.
Socks that we forgot to mend—
Troubles pile up without end.

Who would he choose for second wife?
Some Daisy Mae? Not on your life!
So we must just get well again,
And save him from a lot of pain.

—CHRISTINE A. MCLEAN.

Operation "Stove Pipe"

An annual event that is a test of character

by HUBERT L. EVANS

ALL rural residents are familiar with that great semi-annual catastrophe known as stove pipe cleaning day. Only extremely cold or very windy days are selected for this purpose. It is one of the immutable laws of nature that calm or warm days always coincide with the family wash-day or the weekly bread baking orgy. These being fixed festivals, their observance, like the laws of the Medes and Persians, cannot be broken.

When we speak of stove pipe cleaning, we are not referring to the job where the cook stove is connected to the chimney with two lengths of pipe and an elbow; but rather to that arrangement whereby the cook stove and two heaters are ingeniously connected by a complicated series of T pipes and elbows to a chimney which ends on a bracket in the second storey. Your true stove pipe cleaning enthusiast despises a job in which the pipes do not meander through at least two walls (three is better) and a bedroom floor.

Custom has ordained that the rite be performed by a man and wife. Why this should be so is difficult to understand, for no other co-operative job is so calculated to end in cross purposes and vindictive recriminations. There are but three great fundamental principles upon which mankind cannot agree, religious doctrine, political opinion, and stove pipe cleaning procedure; and of these, the last is pre-eminently first in importance.

Father is sure they always start taking the pipes down in the front room. Mother as stoutly maintains that Operation Stove Pipe begins in the kitchen. So they compromise by commencing in the dining room. Then, finding this to be patently wrong, they replace several lengths and repair to the kitchen.

All goes well until the first length of soot-infested pipe is carried outside. The wind, considerately blowing a half gale through the open door, performs a very efficient job of cleaning the pipes on the kitchen floor. Mother suggests using the front door, but father vetoes this because the storm door is nailed on, covered with tar paper, and well banked. Exit will have to be by the kitchen door or nowhere.

NO difficulty is experienced in the dining room, and father ingeniously overcomes the backward trek of the soot when the door is opened by effectively closing the end of the stove pipe with his old felt hat. However, more trouble develops in the front room. This is mother's holy of holies and she wishes to protect the carpet with some ancient copies of the local paper. Father opposes the idea as a waste of time and suggests that all that is required is a little extra caution. For the sake of domestic harmony mother submits.

The pipe finally parted company with violence.

It is from this room that the stove pipes make their upward flight to the second storey, so father mounts to the bedroom and for the next few minutes complicated directions are exchanged through the stove pipe hole in the floor. The pipes steadfastly resist separation, but finally part company with a suddenness and violence so unexpected that a shower of soot descends to the front room carpet. After mother has adequately expressed her opinion of her somewhat chastened spouse, the operation proceeds considerably behind schedule.

The pipes down, father repairs to the outside of the house to clean them, while mother proceeds to "clean up the worst of the mess."

When the party reassembles, harmony has been restored. In cleaning the pipes, however, father has succeeded in disconnecting the length in several places. Had mother had her way no difficulty would have ensued.

Her daily dusting had made her thoroughly familiar with every pipe in the assembly. To her each one has an individuality of its own and she could have unerringly linked each to its mate. But father had ideas of his own. He was sure the pipe with the dent in the middle came from upstairs. Mother said with equal certainty that it was the third pipe from the east wall of the dining room. Experiment proved mother was right and father's chagrin was only slightly mollified by the discovery that an upstairs pipe did have a similar dent.

But there is nothing in the world that patience will not achieve, even the pallid brand of patience which prevails when husband helps wife; and so in the end pipes are assembled, fires relighted, and the whole affair becomes a more or less fond memory of the past.

NEVERTHELESS the question of stove pipes is not one to be lightly esteemed or irreverently handled. Many great forces are operative in the life of a nation but in the last analysis none is of such vital importance, or so fraught with the element of which right character is built, as the humble stove pipe. It may not be too much to say that our strong, virile, western character has been built on a stove pipe. It is without a peer as a developer of broadmindedness. It is useless to approach the job of assembling stove pipes with any preconceived notions of how it should be done. Precedents cannot be relied on, stove pipes never go together in the same way twice running.

Certainly it is a job to be undertaken only by one whose character is perfect or is capable of being made so. Many an earth dweller has found his way to paradise through a stove pipe, but many a one, alas, ends up with a reputation as soiled as his person.

Perhaps it would be well in this period of world history, when strong leadership is so essential, to accept for high office only the man who has wrestled with a recalcitrant stove pipe and emerged, bowed and bleeding, but the master of his destiny—and a stove pipe.

Wood of Alberta

A brief review of a book about the man who was president of the United Farmers of Alberta for fifteen years

A FERMENT of ideas has characterized rural western Canada, especially between Winnipeg and the Rockies, during most of the last 50 years. Pioneer hardships, aggressive and somewhat monopolistic grain handling and railway enterprises and the hazards of farming in a rigorous and sometimes unpredictable climate, together with political neglect by the more populous East, created a succession of problems, both economic and political, which were aired and relayed from platform to platform in no uncertain terms. Leaders emerged and their numbers have made an impressive total.

Of these leaders, none has been more colorful, or gained so firm a hold, in his day, on the life and opinion of the province in which he lived, as Henry Wise Wood of Alberta. Born in Missouri, in 1860, Wood came of southern, slave-holding, Confederate stock, formed from a union of Virginia and South Carolina families. When he bought a section of land at Carstairs, Alberta, in the fall of 1905, he brought with him, from northern Missouri, an extensive experience in farm organizations, sufficient political experience to have refused the Democratic nomination for the state legislature, and some disillusionment. As told by William Kirby Rolph, with some encouragement from the Wheat Pools, in Henry Wise Wood of Alberta (University of Toronto Press, 1950), Wood seemed never to have repeated, in Alberta, the success as a farmer which is attributed to him on his father's 1,000-acre Hereford ranch in Missouri.

He did become an early member of the Canadian Society of Equity and continued his membership when this society was amalgamated with the Alberta Farmers' Association, becoming a delegate for the first time to the annual convention of the United Farmers of Alberta in 1911. He became a district director in 1914, was defeated for the presidency the following year, but as vice-president, became acting president on the death of the president, James Speakman, before the year was out, and was confirmed in his new position the following year. In the same year he was defeated for the Liberal nomination in Calgary West, but this proved to be his only concession to personal political ambition, and he continued to be elected year after year with unfailing regularity as president of the U.F.A. until his retirement at the time of the 1931 convention, when he was over 70 years of age.

He had been president of the U.F.A. for 15 years, and president of the Alberta Wheat Pool for seven years. He continued to head the Wheat Pool until his retirement in 1937, and died in June, 1941, at the age of 81.

As told by Rolph, the story of Wood's life is a fascinating tale of devotion to the ideal of agrarian unity and the principles of co-operation. His tall, lean figure, topped by an almost completely bald head, his drawling voice and droll humor, coupled with his wide reading in philosophy, economics and the Bible, and his inate conservatism, developed for him a commanding presence in any farm gathering. Never was his hold upon farm sentiment in Alberta more forcefully or clearly demonstrated than during the long struggle over political action, about which H. W. Wood had very firm convictions. All of this the author deals with in lively detail, as well as Wood's part in the organization and conduct of Pool operations. One could have wished in places, for a little more skilful organization of this detail, and a somewhat more critical appraisal of the man, but the detail is there, and if Rolph's examination of, and tribute to Wood's work and character did nothing more than remind us, as it does throughout, of his steadfastness of purpose and his persistent, methodical reiteration of the ideals for which he stood, it will have served an excellent purpose.—H.S.F.

Trends in Canadian Dairying

Canada must increase dairy production or lose export markets we have had for many years

WHEN final Canadian figures are available they will show that total milk production for 1950 was slightly lower than in 1949. In his address before the Saskatchewan Dairy Association, D. M. Beattie, Grading and Inspection services, Department of Agriculture, Ottawa, expressed the opinion that this was due to high relative prices for other farm commodities. Many cows which ordinarily would be kept for milk production were sold for beef, or exported to the United States.

Of the 16.7 billion pounds of milk presently being produced in Canada 25.1 per cent is consumed as fluid milk in the urban areas, 10.2 per cent is consumed on farms and 6.8 per cent is fed to livestock on farms. This leaves 57.9 per cent for use in manufacturing. Prior to the war, milk production was approximately a billion pounds less than it is today, but the percentage used as fluid milk was about ten per cent greater. It is estimated that approximately two per cent more milk was used in the fluid state in 1950 than in 1949.

In 1939 approximately one per cent of the total milk production was required to manufacture the nine million pounds of ice cream consumed that year, but in 1950 it took 2.4 per cent to manufacture the 23.5 million gallons consumed. The per capita consumption of ice cream in 1939 was 5.76 pints, and in 1950 the figure had climbed to 14 pints.

Approximately five per cent of Canada's total milk supply is used in the manufacture of concentrated milk products amounting to 380½ million pounds last year. Two-thirds of these products consisted of evaporated milk. At the present time dry skimmed milk is being imported into Canada. Concentrated milk products are normally a Canadian export. The indications are that there will be a further increase in concentrated milk production in 1951.

Cheddar cheese continues to be the major export dairy product in Canada. In 1950 approximately 6.5 per cent of Canada's total milk went into the production of cheddar cheese, compared with between eight and nine per cent before the war. The production of cheese was 95½ million pounds in 1950, a decline of 16 per cent compared with 1949 production. With the exception of 1948 the production of cheese last year was the lowest of any year during the century.

In spite of the fact that there has been an increase in population, and a moderate increase in per capita consumption, approximately half of our cheese is sold for export. The United Kingdom is the chief market. In 1948 this market took slightly more than 32 million pounds against a contract of 50 million. In 1949 the contract for 50 million was filled by August 20, and the Agricultural Prices Support Board purchased the balance of that year's production. In 1950 there were 59.3 million pounds shipped against a minimum contract of 69.3 million pounds and 84.4 million pounds maximum.

Butter continues to be the major dairy product manufactured in Canada, in terms of utilizing the largest percentage of total milk production. For 1950 this percentage is estimated at 38 for creamery butter and six per cent for dairy butter. Thus, butter production utilized between 44 and 45 per cent of Canada's total milk supply. Prior to the war about 53 per cent of the total milk supply was utilized for butter production. However, milk production had increased so significantly during the interval that the total amount of milk that went into butter production in 1950 was slightly in excess of the average quantity used during the five-year period 1935-1939.

For years the production of butter in Canada has been about equal to domestic requirements, showing a surplus one year and a shortage the next. This situation has prevailed over the last two years. In 1949 the Agricultural Prices Support Board purchased 48.1 million pounds of butter at the support price of 58 cents basis first grade, delivered Montreal. Most of this butter was sold back to the trade, though there was a carryover of 19 million pounds. Butter thus sold was re-graded before being put on the market. Under the 1950 support program approximately 33½ million pounds were purchased at 53 cents per pound, first grade, delivered Montreal.

In his closing remarks Mr. Beattie expressed the opinion that trends which have been developing in Canadian dairying indicate that if export markets are to be retained milk production must be increased. If this is not done, in a very few years all of our milk production will be required for the domestic market. As long as supply and demand are so close together, small changes in production will move us from the position of having small exportable surpluses to that of having shortages which necessitate imports.—R.O.H.

Time For Decision

Continued from page 7

religion, politics or anything else, usually say that it is a man's privilege to believe what he likes, and most of us, while asking the question, "what's it all add up to?" would resent someone else saying that it adds up to this or that and "that's what you have to accept."

RIGHT there lies the essence of our dilemma. Many people are hazy or lazy about "what it all adds up to;" others have drifted into a position where they don't believe in anything – hardly, even, in their own self-respect. But it is no one's privilege not to believe in anything–unless he is ready to be logical and show that he does not believe in life by committing suicide. Belief in nothing clearly destroys belief in life itself. No, we must believe. Something there must be which, however lukewarmly, we consider worth while. And in society, if it is going to hold together, there must be something which in the last resort men will believe in warmly enough to die for.

Will we die for our country, our religion, our family, our class, our bank-account, our honor, our profit, to uphold the law–what will we die for?

The great strength of Communism is that it knows precisely what it wants its young men to die for and can make them willing to die for it. It has an exact and well-worked-out doctrine. "The dictatorship of the proletariat" – no bosses! That's simple enough to be grasped by the simple man. It's far from being the whole truth, but it will do. For this doctrine, which constitutes a faith for those who accept it, men will die. They will die in battle, or, if necessary, as missionaries and martyrs.

The result of this devotion is evident: wherever these missionaries go, they make converts. Not very many in Canada, but some even here, and some important converts. You cannot tell me that a creed which can make converts, and not by force, is to be written off. Never underestimate your enemy.

What has Communism got that gives it its powerful appeal? First of all, it offers hardship: it calls for sacrifice. Anyone with a whit of knowledge of human nature, especially of youth, knows that men respond to heroic calls. They respond to high purpose and hardship. Yet our leaders in business, labor and politics go around prating about wages and prices, about "the high standard of living," as if the only thing to which generous youth would respond was the promise of another dozen eggs.

Again, over wide regions of the world, Communism offers liberation. To every Chinese, Korean, Indo-Chinese, Malayan, it offers freedom from the landlord, from the white man, from the West. Communism comes to Asia as a liberating creed, whether genuine or not is beside the point. Here, at any rate, is a creed which offers to the Asiatic what we thought we had to offer–freedom–and which offers it, apparently, more acceptably. Freedom, "democracy," has been our stock-in-trade, the best piece in the shop. If simple people won't have it, what is wrong with it?

One thing wrong with liberty is this: If people are left completely to themselves to work out their lives, there is little doubt where they will come out. They will come out to selfishness and the game of "grab." They will come out to paganism, apathy, frivolity and mere indulgence. I submit that that is just the point at which an alarmingly high proportion of the English-speaking world has arrived–paganism: a world of no values at all, except "what's nice" or "what you can get away with." Asiatics, looking at white behavior, sense this.

On one level, this manifests itself in the unremitting pursuit of the almighty dollar (and the correlated unremitting pursuit of new husbands by the divorced wives of those who are pursuing it), on another in the tawdry lives of so many, their silly amusements, and in the rather too frequent descents into brutality and bestiality which anyone can note in the daily papers.

COME at the question from another way. When young, most of us are taught the Christian code of conduct –honesty, fairness, kindness, charity. When we "go out into life," however, we often find contradiction of nearly everything we have been taught to practice. Many young people in the world of business find they have to repudiate most of what they have been taught–if they are to survive. This contrast between our ideals and the realities of making a living in our civilization often makes sensitive young people feel that the ideals are just so much eye-wash. A proportion of them start looking around for other ideals and another system, not so hypocritical.

Then consider the sheer frivolity of so much of our life today. What sane individual could really take seriously a "civilization" among whose typical products are "comics," Hollywood movies, soap opera, juke box music, the soft drink swilling cult? I turn on the radio and out comes a blast of discordant noise supposed to be music: something in reality enough to drive any Eskimo back to his raw seal meat. "The civilization we are willing to die for!" someone cynically remarks.

"Just an old fogey," I hear someone saying. Well, they wouldn't welcome my kind of fogeyism in Moscow. They know how useful are the lunacies of North American civilization in driving people into their arms. In France and Germany, "civilization" as displayed by the Americans of the occupation has already visibly cooled people off to the whole idea of close alliance with the United States.

North American life, which we still call "democratic" or liberal, seems to be a race between these lunacies, between the hypocrisies and selfishness that its very virtues permit, and the highest sanity and idealism. Nowhere do men enjoy so much well-being as here: nowhere is there so much silliness.

If we're going to get through the next ten years, we've got to straighten up. Probably the mere lunacies of our civilization, which make it so tawdry in the eyes of the foreign observer, will work their own cure. But how about the indifference, the apathy, the exploiting selfishness, the lack of a faith? Over these the sane, positive and rigorous elements in our civilization, if it is to win through, have got to triumph.

WE began as Puritans, but too much success in conquering nature gave us so much wealth that much of our Puritanism slid over into paganism. Now we are confronted with an adversary who, in his zeal, his belief in himself and the deadly seriousness with which he conducts his operations, himself possesses most of those hard, durable qualities which we ourselves used to display. It is plain that to match him we have to recover something like our old-fashioned Puritanism. I do not mean that we must literally go back to the days of our great-grandfathers: no, but we must recapture the sense of conviction, the respect for life, the faith in our way of life, the active zeal for it, the ability to endure, which they possessed. Otherwise, however many airplanes we make, eventually we are sunk.

Respect for our way of life means devotion to it, devotion with some passion. Are you a passionate devotee of parliamentary government? Are you intensely concerned about fair trials in open court? Do you believe with deep conviction that a man ought to be held innocent until he is proved guilty? Are you for a just society–even if it means you have to pay more taxes?

You will be rather an exceptional person if you have ever thought about such things, except the last – which you have probably cursed as unjust. If you are one of those who have thought about them, the chances are that you have not gone beyond giving them your tepid blessing.

Tepid blessings are not enough. The simple truth is that if we are going to ward off a foe who believes passionately in what he preaches, we too have got to come round to believing passionately in our way of life. And that way of life, when analyzed, turns out to consist in just such things as I have mentioned – the historic apparatus of self-government, backed by the Christian ethic. So repossess it, revitalize it, wear it proudly–it is our spiritual banner.

Co-operative Milking

FRANK MEISSNER, Iowa State College, writing in the Holstein-Friesian World, reports the introduction of co-operative milking into Holland. Ten new milking co-operatives were started last year in that country. The first one apparently was organized at Adouard in the province of Groningen. Five farmers bought a jeep, fitted it with the necessary piping, equipped the dashboard so that the motor could be switched over to the milking machine, and manned it with a three-man crew who milk 130 cows.

The milker in charge is paid above average wages. In addition to seeing that everything runs smoothly, he checks the engine, vacuum, pulsator, teat cups, keeps the accounts, and tries to discover cows in heat. A second man washes the udders, puts the milkers on, takes them off and empties the pails. A third man binds the cows and does the stripping.

Investigation has found that 130 cows milked by hand would require about 20,000 man-hours per year. Private milkers would require 9,300 man-hours, but the co-operative set-up does it with 7,500 man-hours.

Canada and the U.K. Food Market

The minister of agriculture tells the story of our British food contracts

FOR the last ten years Canadian farmers have been accustomed to bilateral food contracts with Britain. By this means we have disposed of hundreds of millions of pounds of cheese, several hundred million dozen eggs, many hundred thousand head of cattle and around three billion pounds of bacon, in addition to wheat and other products. Most of these contracts were renewable each year, and since the end of World War II they have been the subject of considerable anxiety as the annual Dominion-Provincial Agricultural Conference period approached, and Britain has renewed her bargaining for Canadian food in return for her scarce dollars.

Last year Britain was anxious to take only our cheese and our wheat. This year there are no food contracts with Britain at all. At the recent annual meeting of the Canadian Federation of Agriculture held at Calgary in January, the Rt. Hon. James G. Gardiner, Minister of Agriculture, dealt with the basis of these contracts. As a preface to his remarks he said: "It has been said by many, and inferred by more that the present government of Canada, and more particularly the Minister of Agriculture in it, is responsible for the existence of bilateral contracts as a means of supplying Britain with food. The facts reveal that nothing could be further from the truth."

The Minister reminded his hearers that for a hundred years Britain had believed best "to buy her food in the cheapest market." For some years prior to the coalition of Labor, Liberals and Conservatives under Stanley Baldwin in 1930, there had been dissatisfaction with this system, and there was an understanding that the Coalition government would attempt to find some plan for the stabilization of wages and prices, and the elimination of unemployment.

AT the Commonwealth Conference of 1930, and again at the Ottawa Conference of 1932, the Canadian delegation, led by the Rt. Hon. R. B. Bennett, and the Australian delegation led by Prime Minister Bruce, strongly urged that the dominions and colonies should receive a preference in the U.K. market for food products. Eventually the Rt. Hon. Neville Chamberlain, at Ottawa, on behalf of the United Kingdom delegation, proposed that the Conference consider "the regulation of supply rather than of importation into Great Britain."

Arrangements were made for the development of a plan over a three-year period, and agreements were drawn up, based upon preferences of ten per cent in the British market. At the end of the three-year period, the British government could, as far as agreements with Canada were concerned, express their desire "in consultation with the Canadian government, to bring such produce within any system which may be put into operation for the quantitative regulation of supplies from all sources in the United Kingdom market." By the end of the three-year period, Britain exercised her right under the agreement, with the new Liberal government in Canada. "The Canadian government," said Mr. Gardiner, "was not in favor of the plan perfected in 1933, but was told, when Messrs. Dunning, Euler and Gardiner went to London and entered into discussions with their opposites in the British government, that the plan had passed the discussion stage, and had been agreed to at the Ottawa Conference.

"We were told," said Mr. Gardiner, "that the plan was to consider the sources from which Britain was accustomed to receive her meat supplies, and on the basis of experience in 1935, determine the amount which would come from outside the Commonwealth, and the amount which had come from Commonwealth countries. This allotment would be determined by the U.K. government.

"A conference would be set up of the countries outside the Commonwealth and a Council of the countries inside the Commonwealth . . . and the U.K. government would consult with these bodies to determine the quota to be assigned to each."

Each country concerned was to sign an agreement to deliver so much weekly of the product involved. "Our constitution," said Mr. Gardiner, "makes it impossible for the federal government to enforce delivery in peace time; therefore we had no such agreements and were denied the right to representations on the Council, but Mr. Bennett had written into our three-year agreement with Great Britain, that during the period of three years, Canada could send to Britain 2,500,000 cwt. of bacon annually.

In view of an agreement, the Canadian delegation secured in 1936, by letter, "the right to send to Britain 280,000,000 pounds of bacon, 60,000,000 pounds of cheese, and 60,000 head of beef annually before Britain could ask reconsideration of the quotas. We put forth the argument," said the minister, "that such a plan was not suited to a country such as Canada, where agriculture could be greatly expanded. The only answer we had was that we had not demonstrated that the United Kingdom could depend upon us for more."

MR. GARDINER emphasized the fact that until the war came, neither he, nor the government of which he was a member, had responsibility for anything which happened under this policy. "We were always against the plan, as applied to Canada," he said, "and still are, but we carry on under it because no other plan is available."

New conditions were created by the war and authority to enforce deliveries was provided by the War Measures Act. The contracts Britain had with other countries could not be fulfilled and she was without guaranteed supplies of food. "We undertook to get food for her," said Mr. Gardiner, "and asked her to give us open-ended contracts for not less than a stated amount at a price agreed upon in the fall of each year for the succeeding year.

"I drafted the terms of these contracts," said the Minister, "recommended the quantities and prices to the government after agreements with the British, and take full responsi-

bility for them in every way, and am prepared to accept any criticism anyone desires to make of them. Such agreements can only be drawn in terms which will bring success when the demand is higher than can be met, and when those delivering have the right to take delivery of the product."

Mr. Gardiner said that in 1940, and again in 1943 the British had indicated to Canada that when the war was over, the agreements signed with Denmark and others for bacon would have to be acknowledged. On each occasion he expressed the hope that Canada could demonstrate that she could deliver greater quantities than they were allowing us. "We demonstrated," said the Minister, "that we could deliver 700,000,000 pounds of bacon in one year, two and one-half times what they allowed us, 145,000,000 pounds of cheese, which is two and one-quarter times as much as they allowed us, and 500,000 head of cattle to Europe, which is over eight times as many as they allowed us."

After being notified for the second time that Canada could not depend upon the British market after the war, "we demonstrated," said the Minister, "that we could, without harm to ourselves, go back to producing less meat and dairy products, and more cereals.

"When the end of the war was reached, the authority of the War Measures Act was extended in order to meet Britain's request for continuing food supplies. We were able to do this on the basis of a continuing emergency arising from the war."

Of the present situation, Mr. Gardiner said: "We reduced bacon below 280,000,000 pounds, we reduced cheese below 60,000,000 pounds, we reduced cattle to Britain below 60,000, and were told no more eggs would be taken, as we had not been a considerable supplier before the war. As long as we stay under these figures and accept the British price, we do not need an agreement, but under the terms of the 1932 arrangement, we can only exceed the quantities stated, with the consent of Britain.

"The recent contracts made by Britain with other countries, indicate that she is following the intent of the 1932 agreement. Every Liberal in the world believes that if we can maintain peace, these agreements will very soon prove themselves to be the most ridiculous policies for the promotion of trade, ever put into operation."

Crickets in the Ring

The new world deplores bull fighting and such sports but the Oriental gets amusement from contests between crickets

by **CAPT. T. KERR RITCHIE**

WE arrived at the Siamese merchant's farm in the country outside Bangkok at sunset. The ducks were being trumpeted in from the surrounding paddy-fields. They were intelligent birds, endowed with a discriminating musical sense; for they hurriedly sorted themselves into groups, each assembling under its particular banner and trumpeter, whence they were driven by coolies into derelict junks at the river's edge.

The meal was in preparation for us while we sat talking and eating melon seeds in the courtyard. Before us the moon rose like a golden coin at the rim of the delta. The merchant, whose mother had been a Lao from the north, was genial and loquacious, the type of man who would be engrossed by a dog fight.

It was on an exceedingly lavish scale this meal. Dish after dish, succulent and picturesque, was served up. As the repast concluded, the merchant ordered his servants to prepare for the contest of crickets, which was the signal reason for our invitation to the farm.

THE site chosen for this sport was a smaller courtyard at the rear of the dwelling. In the center stood a time-worn billiard table. This was the battlefield, the combatants being enclosed in miniature meat cages at each end. A circle of chalk indicated the arena. A flood of greenish light from overhead added to the pugilistic atmosphere. The merchant, after supplying us with steaming face towels, led us to the ringside seats, which were filled for the most part by his friends and by the menials and hangers-on of his household.

The crickets were in the care of a couple of old men—Siamese peasants. These "lictors" used, as a weapon to urge their charges into battle, a sprig of bamboo with a rat's whisker attached to the end. An occasional gentle caress with this rat's whisker stirred the insects into a frenzy of strident motion.

"These are good specimens, number one class," our host assured us. "They have had a sound training. We pay as much as twenty-five baht for a first-class cricket.

The first antagonists had by now been urged into the ring for the preliminary parade. Restricted only by the presence of their trainers, they viewed each other in hostile immobility. Betting had meanwhile commenced amongst the spectators. Then a gong rang and the contest began.

The quality of mercy was completely absent in the encounter which followed. The insects, one of which bore a white mark of identification, fought with tremendous gusto, emitting smothered chirps as from time to time they attempted flanking movements. There was no respite. The least sign of recalcitrance on the part of either fighter was immediately remedied by the application of the leash of rat's whisker.

The onlookers shouted their enthusiasm at each renewed onset, backing their fancy stolidly, since a cricket is never out of the running till his head is severed. This misfortune soon overtook one of the combatants, whose corpse was ceremoniously removed from the ring to the accompaniment of a chorus of wails and moans from the Siamese peasantry, a lamentation not inspired by humanitarian principles. Their cash had almost gone, but they would recoup their losses on the next fight.

Inhuman? Certainly! But then we in the western world might have a hard time to defend some of our own sporting practices, cock-fighting, hunting, and for that matter wrestling as now conducted.

Barley and Oilseeds Conference

A review of problems relating to barley and oilseed crops made the subject of a special two-day conference at Saskatoon

THE prairie provinces of western Canada are often accused of having developed a one-crop economy based on wheat. This is true only to the extent that wheat is so much more important than any other single crop in terms of acreage, production, and farm income. Other grain crops are more or less taken for granted, and it has required years of consistent effort to develop a more or less general realization of the fact that crops such as barley, flax, sunflowers and soybeans have for many years possessed industrial uses of particular concern to the farmer. The uses of barley in the brewing and malting industries, and of flax in the paint and the varnish industry are, of course, very old.

Since about 1935, the work of the National Barley Committee has directed attention to malting barley, and for a number of years now, flax has received special attention, particularly during the war years and since, owing to the increasing use of vegetable oils, the continuing demand of the paint industry and, during the war years particularly, the demand for marine engine oils. In recent years, the sunflower crop has become important in southern Manitoba, and it appears that a great deal more sunflower oil could be sold in Canada than is produced now.

All of this serves to emphasize the remarkable growth which has taken place in the chemurgic or industrial uses for farm crops. A good illustration of this is the soybean, very little grown in western Canada, but produced extensively in Ontario, and for which there are scores of uses ranging from human food and livestock feeds through fertilizer, glue, plastics, paints, celluloid, disinfectants, enamels, insecticides, linoleum, lubricants, soaps, varnishes, water-proofing, breakfast foods, candies, ice cream powders, coffee substitutes, and textile dressings, to emulsifiers, and margarine.

LAST month the second Western Barley and Oilseeds Conference was held at Saskatoon, where one day was devoted to barley problems and a second day to oilseed crops, with special reference to flax. That these crops are important is evidenced by the fact that during the past four years, Canadian farmers produced nearly 590,000,000 bushels of barley, and a little over 36,000,000 bushels of flax. Of these totals, the three prairie provinces produced nearly 540,000,000 bushels of barley, and a little over 34,000,000 bushels of flax. It is worth noting, too, that of the flax produced in the prairie provinces, 28,000,000 bushels were produced in the 1947 and 1948 crop years, leaving only better than six million bushels for the crops of 1949 and 1950. Barley production has been more consistent.

Nearly ten per cent of Canadian barley is used by the malting industry, which exports about one-quarter of its output. There is also a market for malting barley in the U.S., which has in recent years amounted to 15 million bushels or more; and this year, Japan deprived of her rice supply from China and Korea, has been purchasing Canadian barley to mix with rice for human food. Not only is there some probability of this practice being continued in Japan, but western European countries which formerly bought Canadian barley are now looking to Canada.

Dr. J. B. Harrington, head of the Department of Field Husbandry, University of Saskatchewan, described barley as a crop of increasing importance in Canada, which on the open plains is a crop which would return more grain feed per acre than will wheat or oats. He believed official estimates of average yields for wheat, oats, barley and flax were deceptive in that "the crops are not on a comparable basis of performance . . . more than half the wheat, and most of the flax (1944-48) was grown on summerfallow, but only a small proportion of the barley and oats were grown on fallow." Grown under exactly similar conditions from 1936 to 1939 at the University of Saskatchewan, two leading varieties each of wheat, oats and barley grown on summerfallow, showed net feed value expressed in western feed units per acre, of 1,095 pounds for oats, 1,221 pounds for wheat, and 1,422 pounds for barley. "These results indicate," said Dr. Harrington, "that barley gave 16.5 per cent more feed value than wheat and 30 per cent more than oats." He believed that it might be good sense to consider barley as a high class crop and give it fully as good treatment as is given to wheat or flax.

"ALL barleys," according to Dr. E. W. Crampton of Macdonald College, Quebec, "are basal feeds, and as such are used in livestock rations primarily as sources of energy." Lighter barleys are less efficient than barley showing a greater weight per bushel. Thus, according to Dr. Crampton, "with 40-pound barley there will be 20 per cent more feed by weight, or 40 per cent more by measure, needed to produce a unit gain in finishing hogs than would be required of 50-pound barley."

An excellent review of barley varieties was provided by W. H. Johnston, Experimental Farm, Brandon. Montcalm, it appears, leads for the production of malting barley in all the three provinces, and is also recommended as a feed barley in Manitoba and in some parts of Alberta and Saskatchewan. O.A.C. No. 21, still the standard of quality for malting barley, is no longer recommended in Alberta and Saskatchewan, and only as second choice in Manitoba, because of lower yields and a tendency to shatter. Titan for the drier areas of Alberta and Saskatchewan, and Vantage for most zones in Saskatchewan, and for the dark brown and black soil zones of southern Alberta, were two varieties favorably regarded. Other useful varieties included: Olli, an early maturing variety for the northern areas of Alberta, and as a malting barley in zones 2, 3 and 4 in that province; Newal, a yellow, six-rowed, feed variety, suitable for the same zones; Trebi, recommended for the irrigated areas of Alberta, as a six-rowed feed barley; Garton, of the same type, recommended only for very late seeding in Manitoba; Compana, drought resistant, and recommended for southern Alberta; Sanalta, late maturing, smooth awned, and two-rowed, most suitable in moist, cool seasons, and useful in Manitoba as a summerfallow barley; and Hannschen, a two-rowed, combine variety, for central and northeastern Saskatchewan.

"FLAX," said Dr. Harrington, during the flax sessions, "has never had a brighter future in Canada than it has at present. There are new varieties which resist disease, and withstand frost reasonably well. Chemical methods of controlling weeds are very effective. Flax is probably the best nurse crop for clovers or grasses. It is not as exacting on the land as cereals, and actually removes less total fertility. The yields are usually good when the correct procedures are used. Flax can withstand drought as well as wheat, and is generally better than barley or oats."

Domestic flax is in very short supply, according to W. A. Church, Alberta Linseed Oil Co., Medicine Hat, who estimated importations of Argentine oil, during the winter and spring of 1950-51, at between 6,000 and 9,000 tons. The recent high domestic prices for flax Mr. Church attributed to the policies of the Canadian Wheat Board, who "in 1950, in spite of the small crop that year, and of the succeeding year, saw fit to offer the surplus (from the 1947-48 crop) for export, generally at prices under the market, with the result that by September of that year . . . its stock on hand . . . (amounted) to some 150,000 bushels . . . There has since been a heavy export demand for our Canadian seed. Market prices have been run up, and our Canadian crushers have been forced to import U.S flax and Argentine linseed oil to take care of . . . the domestic trade."

A NEW flax variety, Redwood, is being distributed this spring from the Minnesota Experiment Station, and has been recommended for licensing in Canada by the Associate Committee on Plant Breeding of the National Research Council. According to Dr. W. G. McGregor of the Central Experimental Farm, Ottawa, Redwood proved to be the best variety on test over a three-year average at the experimental stations at Morden and Lethbridge, and at the experimental farms at Brandon and Indian Head.

Rust affected Royal badly in the 1948 crop, Dr. McGregor reminded the conference. "Nevertheless," he said, "within our tests, Royal has not rusted to anything near the extent of the new variety Dakota."

P. H. Ford, Agronomist, Manitoba Department of Agriculture, reminded the conference, that all through the 19th century flax was a migratory crop in the United States, advancing with settlement. It kept ahead of the wilt diseases which developed in cultivated soils, but with the arrival of wilt-resistant varieties, "settled down as a permanent crop in the north central states." He quoted California authorities to the effect that while flax requires 905 pounds of water to provide one pound of dry matter, as compared with 555 pounds of water for wheat, the water requirements in tons per acre for average crops of wheat and flax amounted to 1,086.4 tons of water for one acre of wheat as compared with 971.9 tons for an acre of flax.

Richard Stanley Law

Richard Stanley Law, former president of The Country Guide and Public Press Ltd., and the United Grain Growers Ltd., died in Calgary, March 4, after a lengthy illness.

Born in Plymouth, Devon, 67 years ago, Mr. Law served his apprenticeship with a mercantile organization in that city, but his genuine love for agriculture never allowed him to get far away from the farm. When the Farmers' Union of Great Britain commenced its first membership drive in 1907, Mr. Law was one of the canvassers.

In 1911 Mr. Law came with his wife to Canada, settling on a farm 11 miles northeast of Claresholm, Alberta. During the first war his neighbors drafted him to manage the newly formed co-operative store because of his business training. He made such a success of it that he was invited in 1921 to join the U.G.G. organization, whose president he became in 1930 in succession to Hon. T. A. Crerar.

During his presidency of the U.G.G., Mr. Law lived in Winnipeg and Calgary. While in Winnipeg he was first people's and later rector's warden of St. Luke's church, and took an active part in the diocese of Rupert's Land after the Machray defalcations. He was former president of the Royal Society of St. George, chairman of the finance committee of St. John's College, and during the war held office in the war finance committee.

Surviving are two daughters, Mrs. Grant M. Carlyle of Calgary and Mrs. H. Dudley Rose of Spanishtown, Jamaica, a son, A. Gerald Law of Calgary, and two sisters, the Misses Elizabeth and Gertrude Law of Teignmouth, Devonshire.

U.G.G. Treasurer Dies

Barely two weeks prior to the death of the ex-president of United Grain Growers Limited, the Company sustained another loss in the death of John Bertram McNair, 61, treasurer of the Company since 1930. The late Mr. McNair was born and educated in London, Ontario, and was trained as an accountant in the firm of John Scott and Company of Winnipeg. In 1913 he joined the Grain Growers' Grain Company as accountant, and came to be very highly regarded for his ability in his chosen field. For the last two years, he had suffered from a heart ailment, and died en route to the southern states where he was being taken for a rest and recuperation.

Science on the Farm

Research now affects the farm at many points influencing both crop and livestock production

ZEIN is a corn protein used industrially for artificial rubber, plastics, phonograph records, and as a substitute for shellac. Naturally fibrous, it can be separated from the gluten in the kernel because it is soluble in alcohol. It is also elastic. A yellow powder, zein can be spun into yarn, or thread, by making a smooth mixture with ice water, adding some lye and urea, and curing until, when cut, it will flow slowly. After this it is thrust by air pressure through fine holes, then the threads are solidified in an acid bath, washed in water, hardened with formaldehyde, stretched over drums, tempered again with formaldehyde, washed, dried and wound on bobbins. According to Capper's Farmer, Vicara, a commercial product, is sold commercially to textile mills and usually mixed with wool, cotton or rayon. Possessing elasticity, crimping, and good tensile strength, fabrics drape well, take dye easily, stand up well under repeated soapings and in the washing machine, and are shrink-resistant, as well as odorless. They are not irritating to the skin, and garments, like underwear and socks, come back to original shape after washing. Felt hats are also being made from rabbit fur combined with zycon, another corn-protein fibre.

* * *

ANTIBIOTICS are a group of drugs which appear to bring about favorable changes in the bacterial content of the intestines. Two new and apparently very beneficial antibiotics are streptomycin and aureomycin. Fed to livestock, especially pigs, some tests indicate that aureomycin is more influential in stimulating growth than streptomycin. No stimulation of growth appears to follow injection of the drug. It has to be eaten. At the Michigan Experiment Station, four lots of 26 weanling pigs were fed an identical basic feed ration, consisting of corn, soybean oil meal, salt, limestone, trace minerals, vitamins A and B, as well as the concentrated B vitamins, niacin, pantothenic acid and riboflavin. Fed on this ration alone, pigs gained 37 pounds in 42 days. When vitamin B12, the active ingredient of the animal protein factor, A.P.F., was added, the gain was 41 pounds in 42 days; fed the basic ration plus one-half of one per cent A.P.F., which contains some unknown factors in addition to vitamin B12, the gain was 60 pounds in 42 days, or 1.43 pounds per day, as compared with .88 pounds per day per pig on the basic ration alone. Pigs that were fed the basic ration plus B12, in addition to one-half of one per cent of streptomycin, gained 62 pounds in 42 days, or 1.48 pounds per day each.

* * *

PENICILLIN and aureomycin are used in the treatment of mastitis in dairy cows. These mold drugs are responsible for trouble when the milk is used for cheese-making, according to Wisconsin scientists. They say the drug halts the growth and upsets the normal development of the bacteria necessary in good cheese production. The milk is not poisonous and can be fed to calves, pigs or chickens.

* * *

A HARVARD scientist has come up with a new theory about what makes a smell. He believes that odors work through enzymes, a class of chemicals able to induce the transformation of other chemicals. Pepsin, for example, is a digestive enzyme essential to the digestion of food in the body. The Harvard scientist says that you get the odor of a chemical because it changes the concentration of one or more enzymes. This change automatically produces a signal in certain nerves. In other words, the strength or intensity of a smell, according to this theory, is related to the extent to which the enzymes are changed chemically.

* * *

SOMETIMES quite a few hens die without the presence of any infection, about the time they start laying. This loss has often been attributed to heart trouble, but a professor of poultry physiology at Rutgers University, Dr. Paul D. Sturkie, has found that heart ills account for only about 2.5 per cent of deaths in apparently normal hens, compared with about 25 per cent of deaths from unknown causes.

Artificial diets lacking in vitamin B1 and potassium did produce abnormal hearts in hens. Too much potassium also affected the heart, but lack of vitamins A, D and G did not. Professor Sturkie is now studying the blood pressure of hens as the next step in arriving at the final cause of this loss to the poultry industry. The pulse rate of chickens is 300 to 400 per minute, which is too fast to count except by electronic counting methods.

* * *

ALL living bodies consist of one or more cells filled with protoplasm. In each cell are nuclei containing chromosomes in pairs, each of which is composed of genes which are the hereditary units. A Columbia University professor has now isolated a chemical substance, desoxypentose nucleic acid, or DNA. Each cell contains less than one-trillionth of an ounce of DNA, but the actual amount, he has discovered, is strictly parallel with the number of sets of chromosomes and genes.

Always make sure your mail is properly addressed, and that you have signed your name and address to your letter or subscription order. An omission will cause delay in filling your order.

Something about Cheese

The ability of the consumer to obtain good cheese readily and regularly is limited by the nature of the cheese industry

THE Dairy Farmers of Canada representing dairy producers, and the National Dairy Council, representing the dairy manufacturers, sponsored from October 16 to November 15, 1950, a "Cheese Festival" in Canada. The objective of these organizations was to develop, in the minds of the Canadian people, a greater appreciation of cheese as a healthful, nutritious part of our diet. Although there are said to be between 400 and 500 different types of cheese, all based on about a dozen or more basic formulae, Canada, during the last 86 years since the first cheese factory was established in Oxford County, Ontario, has developed an international reputation for the production of Cheddar cheese. This cheese acquired its name from the village of Cheddar, in Somersetshire, England. It was exported to the United States as early as 1790, and is now the most important type of cheese made in the United States, as well as in Canada.

Despite Canada's importance as a cheese producing and exporting country (mainly to Britain) we rank only tenth in the average per capita consumption of cheese among the 11 major cheese producing countries. We consume barely four pounds per capita a year; the United States consumes 8.6 pounds per capita; and Sweden, Denmark, the Netherlands, and Switzerland, from 16 to 18 pounds each.

There are probably three principal reasons why cheese consumption in Canada is so low. One of these arises from the fact that cheese is customarily manufactured in units weighing from 25 to 90 pounds. A full sized Cheddar cheese will weigh from 80 to 90 pounds, and a half or a one-third cheese, is spoken of as a twin or a triplet, respectively. Such quantities are entirely beyond the unit purchasable by the average consumer. If not properly protected, Cheddar cheese dries out. This is not true of many of the other cheeses, especially of the so-called processed cheese which is principally Cheddar cheese, reworked into a convenient and attractively packaged cheese, without the Cheddar flavor and the peculiar texture of ripe, well-cured Cheddar.

The second reason lies in the fact that practically all of the 750 cheese factories in Canada are comparatively small manufactories, unable individually to hold, cure and distribute the product to the consumer. Since a sustained liking for any food product depends upon its reliable quality this places the Cheddar cheese factories at a distinct disadvantage.

The third primary reason is that in all probability many thousands of Canadian citizens have never tasted, at any time, really high-quality Canadian Cheddar cheese. To many people, old cheese is strong cheese. It is true that strong cheese is probably old, but really good, old cheese is seldom if ever strong. Young cheese is generally rubbery, and comparatively flavorless, whereas cheese a year or more old, which has been properly cured—slowly and at a low temperature, not far from freezing—is mealy in texture, and possesses a delicious, rich flavor, accompanied by very little of the "nippiness" so often associated with cheese.

In the history of Canadian dairying, cheese has assumed the function of utilizing or providing an outlet for surplus milk. In Ontario and Quebec, where most of the cheese factories of Canada are located, there are many factories which operate only during the summer months. There are other factories which combine the manufacture of cheese and butter, often producing cheese in the summer months and butter in the winter months. There has always been a tendency in these two large dairying provinces for milk to find its way into cheese or butter production according to market prices at the moment. A substantial change-over may occur from one year to another, or perhaps from the beginning to the end of a single season.

Because butter is made from cream, and cheese from pure whole milk, creameries may be located where cheese factories are impracticable, and they also reach a much greater size than any cheese factory in Canada has yet attained. This is because the whole milk must be hauled daily to the cheese factory and the by-product of cheesemaking, whey, disposed of. Whey butter is sometimes made, but the whey is customarily hauled back to the farms, in many cheese districts, and fed to pigs. This makes economical hauling distance the limiting factor in the size of cheese factories, while at the same time the great variety in skill and equipment which is inevitable where a large number of factories are involved, makes the production of a uniform high-quality product for the industry as a whole, extremely difficult.

The Country Boy and Girl

The Wind and Polly

by **Mary Grannan**

POLLY PETERS was a little girl, who, up until the month of March, was very happy. Then Polly's family moved to a new house and a new town. Polly had no brothers or sisters, and as she had left her many friends behind her, Polly was very lonely.

"Cheer up, Polly," Mrs. Peters said the third day after they had arrived at the new house. "You look as if you had swallowed a bottle of blue ink."

Polly did not smile at her mother's ridiculous suggestion. She sighed. Mrs. Peters raised her eyebrows and puckered her lips. There was something worrying Polly. "What is it, dear?" asked her mother. "You're not a bit like yourself. Do you feel ill?"

"No, Mum. No, it's just that . . . that . . . well Mum, I've no one to play with me. And there's not a little boy or little girl on this whole block."

"How do you know that?" asked Mrs. Peters.

"I asked the mail man. He told me. He said 'No Polly, there's not a child on the block. I've been delivering mail here for more than a year, and I've never seen a little boy or girl on this block, the whole time'."

"I wouldn't worry about that too much, Polly," said her mother. "You'll be going to your new school on Monday, and you'll be sure to meet many nice little boys and girls."

"But today is Saturday, Mum," said Polly. "And it's such a nice windy day. It's just the right kind of a day to play."

Mrs. Peters agreed. "The wind is playing about the kitchen window. I think he's been listening to everything we said. Go out and play with him. Who knows but he may be able to find a new friend for you."

Polly did laugh at that. She thought it very funny that the wind could find a friend for her. The wind heard her laughter, because he had been listening at the window.

"OoooooOOOooo, Polly Peters," he howled, "SoooOOOooo you think that is funny! I can find a friend for you. I shall find a friend for yoooOOOOooo."

And while Polly was putting on her coat and hat, the wind went off in search of a playmate for Polly. He found a little boy with a dog, in the park around the corner. The wind ceased his blowing. He wanted to watch this little boy. If he were kind to his dog, then he would be a nice little boy to know. The dog wagged his tail happily, and licked the little boy's hand. That was enough for the wind. He went to Polly's house and waited. In a few minutes she stepped out to the porch. When she reached the street, Mr. Wind snatched the hat from Polly's head and carried it down the street and around the corner. Polly chased after him calling, "Mr. Wind, Mr. Wind, bring my hat back to me."

But Mr. Wind laughed "Hoo Hoo . . . Hoo," and went to the park. He dropped the hat at the little boy's feet. The little boy picked it up and turned it over in his hand.

"I wonder who owns this hat?" he said to himself, and then he saw the racing Polly. She wore no hat, and he ran to meet her.

"Hello," he said. "Is this your hat?"

"Yes," said Polly. "The wind snatched it from my head the very minute I stepped out the door."

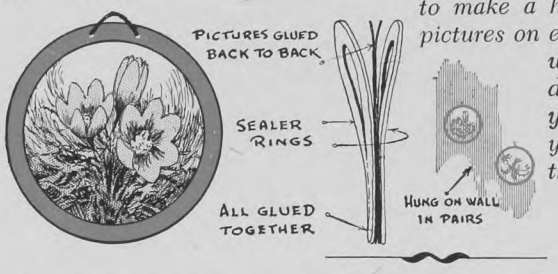
"He dropped it right at my feet," said the little boy.

Polly's blue eyes flashed and she laughed. The wind had heard her after all. He had found this friend for her. She liked this little boy, and he liked her. They played in the park until noon. Then Polly took the little boy and his dog home for lunch. "Mum," she said, as she went into the kitchen, "look what the wind found for me. I like the March wind."

The wind laughed happily outside her window and blew himself away.

BLUSTERY March! That's the way we often think of this month. Perhaps we are in a hurry for spring and March seems to be holding it back. Did you know that March was named for Mars, an ancient Greek god who was fierce and powerful? On March 25 we shall have Easter Sunday, the earliest Easter we have had for eleven years.

On many occasions during the year we especially like to remember Mother and so at Easter time we bring you an idea for a little gift for her. You could make a small wall picture by using a sealer ring for a frame. Use pictures from Christmas cards or magazines (you will need two), that will fit into your sealer ring frame. Lay your pictures back to back and paste them together. Choose the color of sealer rings which best suit your picture—red, white or black. Then place over each picture a sealer ring, one on each side and paste them into position. Now trim your pictures so that they are the same size as their frames. With a darning needle draw wool through the top of the pictures and frames to make a hanger. Mother can use the pictures on either side. A pair of pictures would make a pretty wall decoration and if you wish you could use snapshots of yourself or your family in these frames.



Ann Sankey

PORTRAITS

Number VII of a Series
by **Clarence Tillenius**

WHEN someone asks you "Can you draw me?"—a question that every boy or girl who likes to draw hears sooner or later—could you do it?

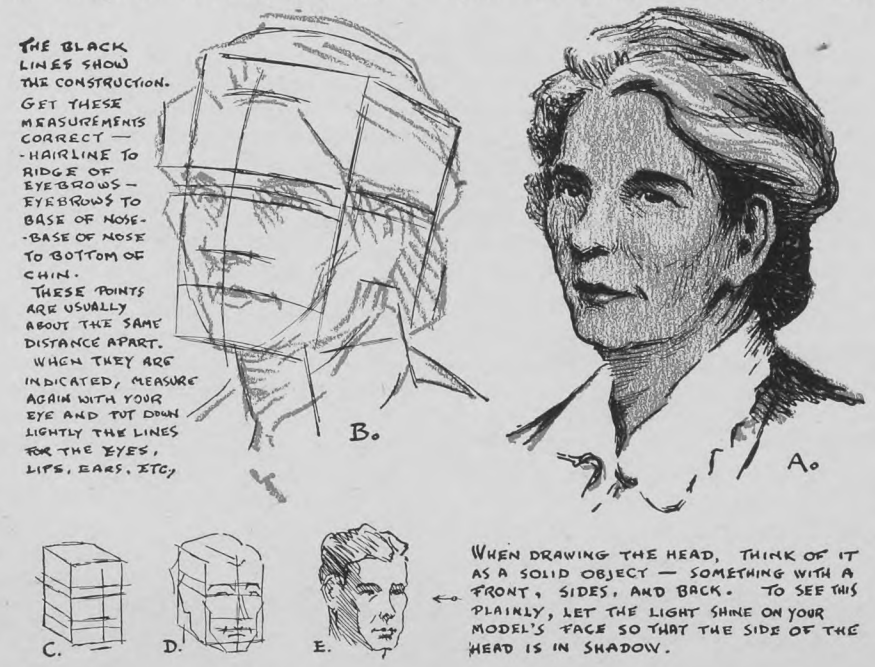
Every good portrait should be two things: (1) It should look like the person, and (2) It should be a good drawing in itself. It is not difficult to get a sort of "likeness" to a given person though the drawing itself may be very bad—many people have some characteristic features such as a short nose, heavy eyebrows, big ears, etc., which if emphasized in the drawing will often indicate who is meant. However, a drawing constructed correctly is generally a good likeness as well as a good drawing.

Now just as when drawing a tree you must think of a cylinder, in drawing a head you must think of it first of all as a block or box with an imaginary center line drawn down the face or front of the box, dividing the features. It is difficult, I know, to look at a friend's face and think of a solid block: but that is the way to draw it.

First, have a plain background behind the head. A large piece of burlap is excellent. Let a strong light shine on the model's face so that the side toward you is in shadow. A "three-quarter" view as in E is best to begin with. Pick out some object in the room for the model to look at, for he must hold the same pose for, say, 15 minutes at a time without moving. Four 15-minute poses, with five-minute rest intervals, should be about right. Do not expect to do a good portrait in this short time—you will likely need many days. But posing is hard work. The model grows tired and cannot hold the correct pose. Leave the model's and your own chairs where they are and tomorrow you can take up the drawing where you left off.

If you want your drawing of the head six inches high, make two marks that far apart on the paper—the top of the head and bottom of the chin. Now mark off the hairline, the eyebrow ridge, the eyes, the base of the nose, and the lips (as in B). When you have these correct in proportion to each other, you can begin to elaborate the drawing. Remember: draw lightly.

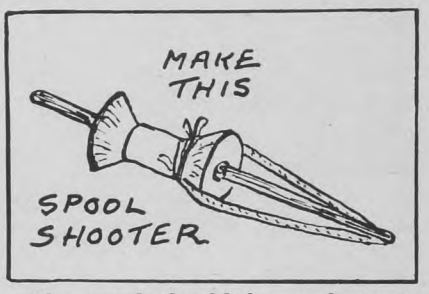
Most people have difficulty in grasping what is meant by "seeing the head as a block." To understand it more easily, take some plasticine and mold some rough cubes a little taller than wide. Now, by rounding off the top corners, cutting away the front bottom corners to make the chin, adding a nose and eyebrow ridges, in a minute or two you have something like a head. (Look at C, D, E.) Practice this. By varying the proportions of the cube, you can make quite recognizable portrait heads of your friends in plasticine. This, in turn, will teach you a great deal about how to construct a head in drawing.



A Spool Shooter Game

THIS spool sharp shooter is made from a heavy rubber band, a spool and a strong piece of string.

The thick rubber band may be cut from the discarded inner tube of a car tire if a regular stout rubber binder from an office is not available. It is tied or wired securely to one end of the spool.



The spool should be as large as possible, the larger the better because it helps give direction to the "bullets" which are thin sticks about six inches long whittled down to pass through the hole in the spool. Pencils will do nicely for bullets if the hole in the spool is large enough to allow them to go through.

The target for your spool shooter game is simply a large cardboard box in which are placed two smaller boxes.

The idea of the game is to stand about six feet away from the target and aim to make your bullets fall into the smallest box which is the "bull's-eye." You may do this either by shooting directly at the target or by shooting your bullets into the air so that they make a nice arc and lob down into the box.

Each player gets six shots in turn and scoring is as follows: inner box, five points; middle box, three points; outer box, one point. The player with the highest score of over 100 after an equal number of shots is the winner.

To play spool shooting as a solitaire game or for practice, you should see how high a total you can score in any six consecutive shots. It's a jolly game for the long evening.—Walter King.

THE Country GUIDE
with which is incorporated
THE NOR'-WEST FARMER *and* FARM *and* HOME
Serving the farmers of Western Canada Since 1882

VOL. LXX WINNIPEG, MARCH, 1951 No. 3

The Wheat Payment

The government has made public its intention with regard to the final payment on the five-year wheat pool, and grain farmers may now strike a balance. By common consent Canadian wheat producers have lost an immense amount of money, just how large a sum can never be calculated. Even at the lowest estimate, the $65 million which the government proposes to pay out of the treasury as compensation is only a fraction and can only be accepted as a token payment.

The plain facts are that the Canadian government, as the negotiator for the sale of the wheat grown by the farmers of this country over a period of years, signed an agreement which was unfortunately vague, and was finally interpreted in a way least favorable to the Canadian producer. As no more can be wrung out of the buyers, who in truth have been wrung dry in the process of recovery, the government, as the farmers' agent, must accept the responsibility. The $65 million token payment is an acknowledgement of that fact.

Grain farmers have been very patient over the long delayed settlement and they are unlikely to accept what has been put forward as a final payment. It is a new departure in national policy for one group to bear the expense of subsidizing another country, and at the same time to subsidize the bread of the citizens of Canada. It is a challenge no group of people could allow to pass uncontested. There will be a speedy demand from one end of the prairie to the other for a more satisfactory accounting. A principal who has been so disappointed by his agent is entitled to it. In particular, grain farmers are entitled to a fuller statement about Mr. Gardiner's final effort to get more from the British treasury than has been made public to date.

Farmers understand the imperative nature of the rearmament spending which has been forced upon the government. Yet this large, new expenditure does not alter the government's obligation on the wheat account. The amount outstanding, whatever it may be, is in the nature of a debt for goods delivered and it must take its place alongside every other debt. The government's proper course is to acknowledge the unequal burden the farmer was called upon to bear in the interests of price control during the war years and to make a settlement on a more equitable basis.

Some Remarkable Conversions

Those who have been saying for some time now that nothing less than a fairly wide measure of controls would halt the inflationary spiral must have got a lot of grim satisfaction from reading Hansard during February. On the 14th, the Federation of Agriculture presented a memorandum to the government asking for the imposition of controls. On February 20, a labor delegation representing organizations whose members, together with their dependents, comprise more than one-third of the population of Canada, went to Ottawa to demand price and rent control, and to signify their willingness to confer on wage stabilization. Public opinion polls taken throughout Canada are reported as showing a heavy and growing majority in favor of the immediate imposition of some controls.

Whether the rising tide of public opinion has had anything to do with it or not there have been some remarkable conversions in the House. Mr. Drew, whose party has never since 1946 relaxed its hostility to controls now says:

> "I suggest that the very existence of controls in the U.S. makes controls inevitable here . . ." "I believe in free enterprise, but I believe free enterprise will be preserved most effectively if the people of this country are convinced that no one has been able to take advantage of the desperate plight in which we find ourselves at this hour." . . . "What is the use of talking about the free play of prices when we know perfectly well just how much free play of prices there is in regard to many important articles today?"
>
> —Unrevised Hansard, page 506.

Another staunch supporter of freedom of trade, the leader of the Social Credit party, urged the government on February 20 to take upon itself the emergency powers necessary to impose the required controls.

On February 12 the minister of finance refused the demand for controls on the ground that fiscal and monetary policy presented the real and fundamental weapons against inflation, and he defended the government's record in providing them. He got his answer from M. J. Coldwell, whose party is the only one with a consistent record on controls. The proof of the pudding is in the eating. Mr. Abbott predicted in 1949 that the cost of living index would level off at about 145. Before Korea it had risen to 160. It has risen since to 175.2, the highest in the history of Canada. Later in the week Mr. Abbott released a Bank of Canada statement in which Governor Graham Towers declared that fiscal policy might not be sufficient to provide stability to the Canadian economy, but might have to be backed up by controls.

The chorus against controls is fading off into a definite pianissimo. The tune was sung by many who genuinely believed that the annoyances and real privations it would impose upon the citizens of Canada would more than offset its advantages. The harmony was provided by that group of operators whose unwarranted profits would be jeopardized by controls. Most of the former are beginning to see that the battle against inflation will be lost without resort to controls. The latter can be dismissed with contempt.

Emergency Powers

The usually well informed Washington correspondent of the New Republic pays a compliment to our parliamentary form of government for the speed with which proposed legislation becomes law. The time which elapses in the United States between the appearance of a bill and its signature by the president is sometimes so long that parties whose interest may be adversely affected may frequently take precautionary action to defeat its purposes.

What this critic says applies with force to the Canadian budget, the provisions of which come into effect within a few hours from the time the budget is presented to the House. In respect to some other proposals, as in the policies for combating inflation, the position is less happy.

In initiating the debate on the Emergency Powers Act on February 20, the prime minister asked for extraordinary powers for the government, which could remain in abeyance and be put into effect by the government at its discretion. Admittedly in a twilight peace, such as Canada is now experiencing, a government must be armed with powers far beyond what is normally required, for the machinery of parliamentary sanction is far too cumbersome to meet sudden emergencies. The power to put unusual restrictions on trade, however, are not powers that should be debated at length and then put into cold storage. Stand-by powers of this nature are simply a signal for the private interests concerned to jack up the price of their commodities immediately in the hope that if and when prices are controlled they will be fixed sufficiently high to permit a continuation of a high rate of profit.

No less a person than the minister of trade and commerce took cognizance of this practice as long ago as September 8, 1950. What Mr. Howe said then has taken place on a big scale. The leaders of every one of the opposition groups referred to it on February 20 in the debates on the Emergency Powers Act. Solon Low declared:

> "—what the government does about controls ought to be done overnight, and not be spread over a long period of waiting and watching, because it gives the other fellow the chance to push his prices up to a point where he thinks he is safe, and it is a very difficult thing to start rolling those prices back."

The truth of Mr. Low's remarks are borne out by the troubles which have beset Michael DiSalle, American Prices Administrator, in attempting to roll back certain prices which were patently skyrocketed to forestall government action. The remedy lies in swift action on this front of war preparedness.

Shaping Canadian Opinion

Before now The Guide has drawn attention to the fact that Canada is the only country in the world where the majority of magazine readers get their information from foreign publications. The importance of that observation becomes apparent in times like these when there is room for divergence between American and Canadian viewpoints on matters of great import.

The current issue of Collier's carries a hysterical article written by its editors from which the reader gleans the idea that the burden of civilization has fallen on the United States almost alone, for there are, it asserts, five American soldiers in Korea for every one of the combined forces of the UN Allies. Collier's 77,000 Canadian readers are led to conclude that the free nations of the world are pursuing their own selfish ends, leaving the United States to hold off the common foe almost single-handed.

Those who take this line are so preoccupied with Korea that they fail to see the shadow of the bear at a dozen strategic places on the perimeter of the Red world. Collier's article makes no mention of the contribution other nations are making elsewhere. They choose to ignore the fact that half of France's army is locked in a life-and-death struggle with Communism in Indo-China. They are blind to the cat-and-mouse game going on in the Malayan jungle, in which considerable British forces are tied down by gangs of murderous Red marauders. Collier's want to know why the well equipped British force at Hong Kong cannot be thrown into the Korean fight and they infer that the Pakistanis keeping watch on the Khyber Pass would be better occupied on the banks of the Han.

There is one overriding reason why all the potential danger points in the world cannot be denuded of troops, but the editors of Collier's would not be able to see it till they take the Korean blinkers off. Neither will their eyes catch the significant comparison published by the Economist showing the relative British and American military effort over the last decade—an analysis which shows that on the basis of total manpower the U.K. has kept more men under arms, and on a basis of national production has used more of its wealth in war effort, than did the U.S. in any one of the years since 1939. Canadians are not so proud of their own record in 1950, but if there is to be any finger pointing they would prefer to have it done at home instead of from the outside.

But recriminations will only defeat the unity which the UN must cultivate. Time, Life, Collier's, Reader's Digest, and the Curtis publications will continue to sell two copies in Canada for every Canadian magazine sold because their mass American circulation enables them to do things forbidden to our comparatively poorer publications. If they go on a propagandizing spree Canadian readers will know the appropriate way to deal with them. In the meantime Canadians will get a new appreciation of their own press, radio and public platform as a means of presenting those aspects of national policy which a foreign publication might conveniently leave out.

Sandwiched in between the news items of the overseas press is an idea which may grow to be of some importance to producers of agricultural surpluses in the New World. Some time ago French statesmen devised the Schuman plan to pool the coal and steel resources of western Europe. The same draughtsmen have now given their attention to food and have come forward with what is referred to as the Pflimlin plan. It is only in its formative stages, but already the Danes are looking forward to the sale of bacon in France, a market denied them up to now. Canadians will watch developments with interest.

THE G.W.G. *RED/STRAP*

FITS THE JOB!

A wise buy for every man's wallet . . . the versatile G.W.G. RED STRAP overall. Fits every job to a T, where men need strength and durability in a cloth -- and roominess for free and easy action. The smart, good looking appearance always stays with the RED STRAP overall! They can take it too on the tough jobs . . because they're tailored from strong, hard-wearing SNOBAK denim an exclusive G. W. G. fabric. No wonder men who want the BEST say "G.W.G. RED STRAP" every time. There's only one RED STRAP —insist on the genuine article at your dealer.

THE GREAT WESTERN GARMENT COMPANY, LTD., EDMONTON

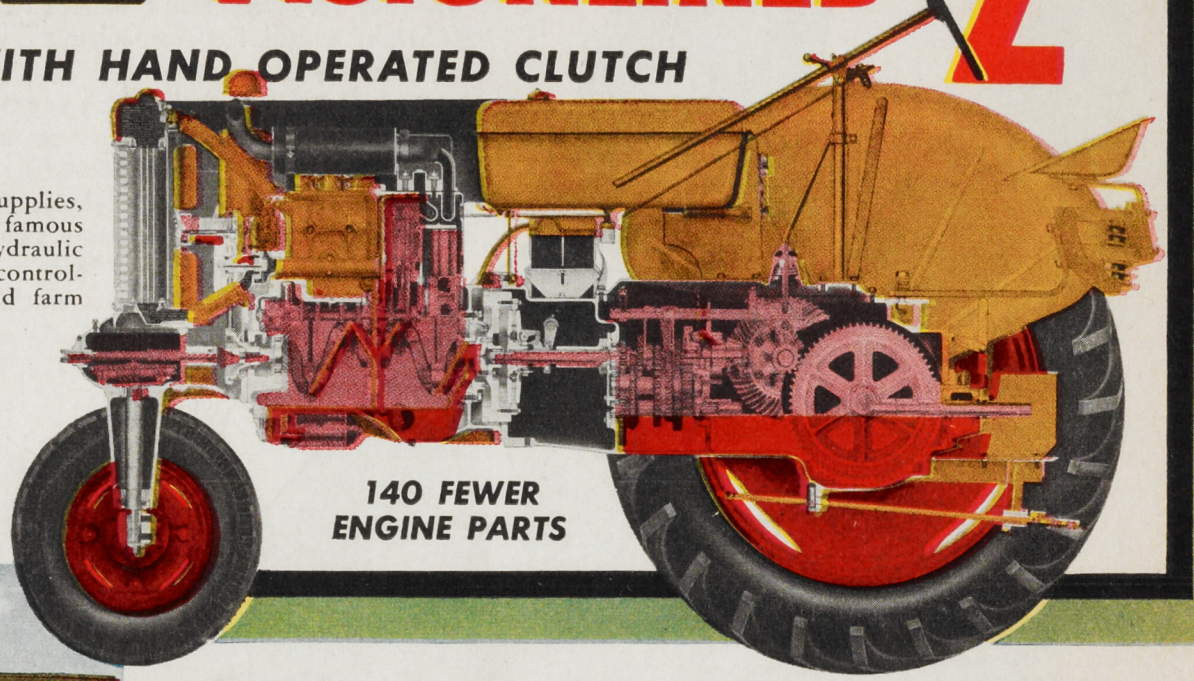
WHEN THEY KNOW THE INSIDE FACTS

PROFIT-WISE FARMERS CHOOSE

THE MM VISIONLINED Z

WITH HAND OPERATED CLUTCH

UNI-MATIC POWER . . . MM supplies, as optional equipment on its famous Visionlined tractors, a new hydraulic unit for raising, lowering, and controlling mounted and pull-behind farm implements while on the go.



140 FEWER ENGINE PARTS

THE PREFERRED 2-3 PLOW TRACTOR . . . with plenty of reserve power!

It's better to have *plenty of power*, than not quite enough when you need it. *And the* MM *Z has a reserve of stepped-up power for drawbar, belt, and power take-off work!* Greater piston displacement of 206 cubic inches helps boost the power of the Z to deliver approximately 36 horsepower at the belt and about 31 horsepower at the drawbar. *You have plenty of power when you need it . . . MM economical power of proved dependability!*

The heavy-duty transmission of the Z runs in oil bath . . . has 5 forward speeds from 2.4 m.p.h. to 13.1 m.p.h. and a reverse of 2.2 m.p.h. Large 11-38 tires give greater traction . . . *gear it to the ground* for the roughest, toughest farm task.

TAKE A LOOK *INSIDE* . . .

. . . at the roller bearing mounted steering gear that gives new car handling ease . . . at the controlled cooling system which assures *uniform* temperature for *uniform* flow of MM economical power . . . at the drop-forged 3 bearing crankshaft . . . at the heavy-duty over-center twin disc clutch . . . note the precision cast iron pistons with 4 rings . . . study the full pressure lubrication system . . . marvel at the simplicity of the *exclusive* MM valve mechanism, one of the many *quality* engineered features which enabled MM engineers to produce a *powerful, dependable, economical engine* with 140 fewer moving parts!

Your 'Z owner-neighbors' will mention other *points of preference:*—the liberal use of oil seals that keep out dirt . . . the safe, smooth, comfortable operation assured by adjustable seat and steering wheel, non-slip platform, and conveniently located controls. They'll mention the high turbulence combustion chambers which cut fuel consumption . . . the easy accessibility for the minimum servicing required. Cylinder blocks cast in pairs with side openings is another outstanding feature which is a *point of preference* for the MM Visionlined Z.

THERE'S A Z TRACTOR DESIGNED FOR *YOUR* TYPE OF FARMING

The Visionlined ZAU has 2 front wheels together which by reversing have a tread of 12⅞ inches. Rear wheel tread is adjustable from 54 to 88 inches. For narrow row crop the Visionlined ZAN with a single 7.50 x 10 front wheel and 54 to 88 inch rear wheel tread is ideal. The standard tread Visionlined ZAS has a 47 inch front wheel tread with 54 inch or 59 inch rear wheel tread. The ZAE has a rear tread of 54 to 88 inches and a front axle permitting adjustment of front wheels from 56 to 84 inches at 4 inch intervals.

From MM owners and from your friendly MM dealer you'll want to get complete facts . . . learn about all the *points of preference* on the Visionlined Z . . . the satisfaction of owning the tractor that will help you produce more at lower cost! The Visionlined Z is *geared to the ground* . . . preferred for profitable production. It's the "buy" that gets you more for your money.

Quality Control IN MM FACTORIES ASSURES DEPENDABLE PERFORMANCE IN THE FIELD

MINNEAPOLIS-MOLINE MODERN MACHINERY

MINNEAPOLIS-MOLINE

Regina, Sask. **of Canada, Limited** Winnipeg, Man.

Sub-Branches and Transfer Points in Other Leading Farm Machinery Distribution Centres

DISTRIBUTORS

Marshall-Wells (Westminster) Ltd.
British Columbia

Waterloo Manufacturing Company
Eastern Ontario